

THE RADIO RECORD

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WELLINGTON, FRIDAY, JUNE 1, 1928.



A great action picture taken during the last Great Northern meeting at Ellerslie. Auckland Star Photo.

Winter Gaiety at Ellerslie



THE three days' racing carnival in Auckland, to be held on Saturday, June 2, Monday, June 4, and Wednesday, June 6, will attract thousands of visitors. Crowds will flock to the famous Ellerslie racecourse, but many thousands throughout the Dominion will not be able to attend. To these the thrills of racing will be brought by IYA, which will be enabled, through the courtesy of the Auckland Racing Club, to broadcast a running description of all events.

PARTICULARLY interesting are these racing relays to the people who have to stay at home, even to those who are not keenly interested in the sport, for the broadcasts

Most people will be aware that New Zealand racing is better conducted and subject to more control than is the sport in other countries.

On the side of racing the club has always been successful and progressive, giving large stakes and providing high class races. This policy has been proved successful, and great credit reflects on Sir Edwin Mitchelson, K.C.M.G., M.L.C., the president, his willing committee, and on Mr. Spence, the club's energetic secretary.

GREAT NORTHERN STEEPLES.

JUNE 2 will see the commencement of the Auckland Racing Club's great winter carnival, which will last three days. Included in the programme are three great races, the Great Northern Hurdles (2½ miles), Steeples (3¼ miles), Cornwall Handicap (1½ miles). The Hurdles and Cornwall Handicap (flat) are run on the first day, and on June 4 the time-honoured steeplechase will be decided. For those who have never witnessed this race, it is sufficient to say that it is run over a distance of 3¼ miles, with steeplechase fences at intervals, together with the famous hill to be negotiated thrice. While the obstacles are not so difficult as on some other courses, "over the hill" the last time is a big test for tired horses. The race always arouses a great amount of interest among all sections of the community, and always provides a thrilling struggle.

SEVERAL exceptional performances have been recorded in these races, one of the most outstanding being that of El Gallo, who won the Hurdles and Steeples, both two years in succession. The first meeting was held in 1886, and among the winners are many famous names.

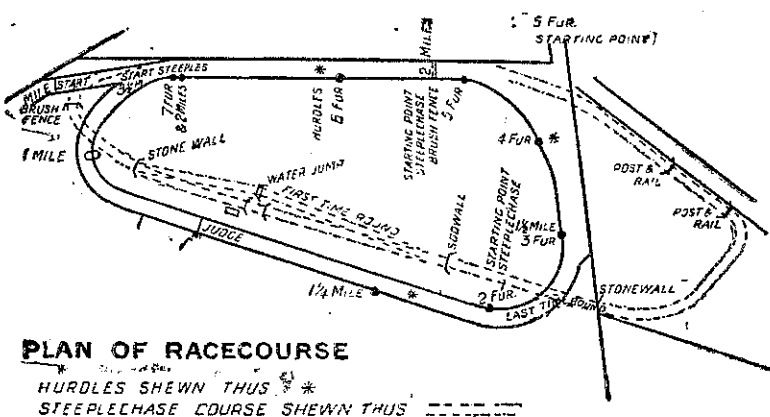
THE form of the "winter" horses is now becoming slightly exposed after the recent meetings at Hawera and Wangamui, and for the big jumping "double" the names of Perle de Leon, Red Fuchsia, and Wedding March are frequently heard for the hurdles, and Brigadier Bill, Beau



Mr. Allardyce, Sports Organiser, who will describe the races.

Cavaller, Maunga for the steeplechase. Both races, however, bear a distinctly open appearance. The ultimate winner will have to perform in a manner befitting the large prize attached to the events.

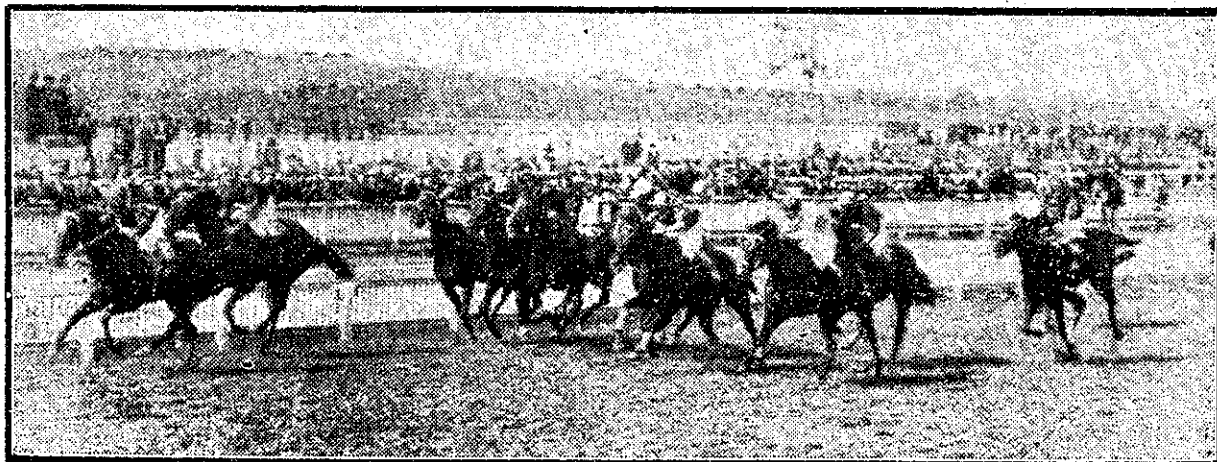
The minor races have attracted large and representative fields, and the whole programme promises to be well up to the usual high standard.



bring a colourful picture of the attractions of a racecourse—the happy crowd, the band music, the excitement of the race.

LISTENERS-IN will be able, through the running descriptions of the various events, to visualise the scene. Of great assistance to all will be the plan of the course, which we publish in this issue. With this before them, listeners will be able to follow the positions of the horses as described by the announcer, and will enjoy all the excitement of the finish at the post.

OF the many racegoers in New Zealand, probably only a few have witnessed racing in other countries; but those who have must have been struck by the superiority of the conveniences for the comfort of the public in their own country. It is fairly safe to say that nowhere in New Zealand is a better appointed racecourse to be found than at the headquarters of the Auckland Racing Club at Ellerslie. This beautiful course is admittedly a show place of Auckland, and the magnanimity of those in control is exemplified by their placing the beautiful grounds with their spacious lawns and beautiful flower beds at the disposal of the public all through the year. A tea kiosk is always open, and visitors who fail to pay a visit to these beautiful grounds miss one of the finest floral displays to be seen in New Zealand.



About a furlong from home. Will Star Stranger get up?

Auckland Star Photo.

New Points For Listeners and Dealers-- By "Meter"

The aim of this section is to give listeners information of new and interesting devices and sets on the local market. It is free of advertising intent or influence and to the best of our ability will convey only absolutely reliable statements. Names, prices and sources of supply are mentioned for the benefit of readers and to save individual inquiry.



POWER tube should always be used in the last audio stage of a multi-tube receiver if more than one stage of audio-amplification is employed. If the receiver is required to deliver only moderate volume, the UX-112 type of tube is the proper one. For greater volume and best tone quality the UX-371 or the UX-310 tubes should be used. One disadvantage of the latter two power tubes lies in their comparatively high plate current consumption, but where B eliminators are used this is not a drawback. Power tubes required higher B and C voltages than the other tubes in a receiver, and for that reason separate B and C connections are provided. In older receivers this provision may not have been made. For such cases special adapters may be obtained which permit power tubes to be used in these old receivers without any alteration in the receiver itself. The separate connections mentioned are provided in the adapter.

WET B BATTERIES.

RADIO listeners who employ wet B batteries should take care to charge them fully if they charge them in their own homes. The tendency of listeners is to be afraid of over-charging their wet B batteries, and as soon as the batteries are gassing actively they take them off charge. If wet B batteries are not fully charged regularly the plates become "hard," with the result that they will not hold their charge anything like so long as they should. This does not irretrievably damage them, but they must be subjected to two or three prolonged charges before a cure is effected. Many hydrometers, too, are not accurate, and they may cause one to think that batteries are fully charged when they are not. Any reputable battery service station would test a hydrometer, and thus remove any doubt that may exist in the mind of the owner.

MARATHON DRY BATTERIES.

MESSRS. Tolley and Son, Ltd., Harris Street, Wellington, showed me recently a complete line of Marathon dry batteries ranging from the standard 4½-volt "C" batteries to the large heavy duty "B" batteries of 45 volts. The Marathon Company's headquarters are at Wausau, Wisconsin, U.S.A. A recent visitor from England informs me that the Marathon batteries are extensively used for radio in the London hotels. The line is made up in 22½-volt dry "B" bat-

teries (10s. 6d. retail), 45-volt (£1), heavy duty 45-volt (£1 7s. 6d.), 4½ volts (3s.), "A" radio dry cells (2s. 6d.). The 45-volt battery is marketed in either the upright type or the standard flat type. The former take up considerably less table area and are excellent for portable purpose. I have witnessed some voltage and amperage tests which the Marathon batteries have been subjected to, and they exhibited a general excellence. This is a line I have no hesitation in recommending to listeners who desire honest service.

PHILIPS ELIMINATORS.

PHILIPS' Lamps (N.Z.), Ltd., Hope, Gibbons Buildings, Courtenay Place, have now received, the new Philips "B" eliminator and "B" and "C" eliminators. On the "B" eliminator, no fewer than seven taps are provided for the receiving set, although, with the average set, no more than four taps (including the negative) are required. Usually a relatively low voltage is required for the detector valve, a higher voltage for the radio-frequency valve or valves, and first stage of audio, and an extra high voltage for the last audio valve, which may be a power valve. By the listener

testing the various taps, he can obtain the best results. The same remarks apply to the "B" and "C" eliminator, excepting that there are the necessary taps for three different voltages for "C" battery bias. A special valve (No. 3006) is fitted into this eliminator solely for the purpose of supplying a constant grid-bias, independent of the "B" load drawn from the rectifying valve (No. 506). Both these valves are designed to have a comparatively long, useful life, and should rarely need replacement, if the apparatus is carefully and intelligently used. As much as 210 volts is obtainable from this eliminator for "B" potential. In the first-mentioned "B" eliminator, a No. 506 Philips rectifying valve is used. The writer has had lengthy experience with the Philips eliminator valves, and the makers' claim of a lengthy life for these valves has been supported by my own observations. The new eliminators are constructed for the 230 volt standard New Zealand supply. The new "B" eliminator retails at £9 15s., and the "B" and "C" eliminator at £11 15s. At these prices, they are splendid value. These eliminators are free from the obnoxious A.C. hum, which characterises some cheaper eliminators.

THE UX-222 SCREENED VALVE.

MR. G. ROBERTSON, general manager of Amalgamated Wireless, Ltd., Bank of Australasia Chambers, Customhouse Quay, Wellington, informs me that the Radio Corporation's new screened-grid valve, UX-222, is proving extremely popular. Wholesale stocks of this valve are now low, but a further shipment will be landed here in a few weeks. Mr. Robertson says the new "wonder" valve is being used as the radio-frequency valve in Browning-Drake sets, in neutrodyne, and in short-wave sets. Although a large number of these new American screened-grid valves have been sold here, Mr. Robertson reports that not one has come back as defective. These valves are retailing at £2 2s.

NEW PHILIPS POWER VALVE.

A NEW 6-volt power valve, the C608, has just been landed by the Philips Lamps (N.Z.), Ltd. The characteristics of the new valve are:—Filament voltage, 6; filament current, 3 amp.; plate voltage, 50 to 150; total emission, 120 milliamperes; amplification factor, 3.3; mutual conductance (slope), 2; internal resistance, 1650 ohms; normal plate current, 18 milliamperes.

S-O-S

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NEW ELECTRIC PICKUP

GREAT CLAIMS FOR INVENTION

The latest American files report the newest musical mystery, the Revelophone Ensemble Orchestra—a "ghost" band of musical instruments, playing without players. Not a musician in sight; just the instruments of a modern jazz orchestra, emitting the stirring strains of a Beethoven symphony as played by the Philharmonic Orchestra under the direction of Toscanini! No wonder former fugitives from German bands are sweeping out their cyclone cellars.

Use Actual Instruments.

They needn't. For the use of actual musical instruments to reproduce the tones originated by another musical group is the last word in reproduction. This according to W. D. Smith, inventor of the Revelophone electric pickup for phonograph records which effected such sweeping improvements in tone quality, and Mr. Smith ought to know. He has been secretly perfecting the new device, the ensemble orchestra, for the last seven years, according to the "New York Herald-Tribune."

The most delicate nuances of tone and shadings of musical expression may now be preserved in the reproduction by the "ghost" orchestra, the inventor claims. The presence of the actual substances which distinguish each instrument of the performing group provides the exact timber of the original, he asserts.

Instead of professional, high-priced lips at the reed of the saxophone, or the piano ivories flying beneath nicotine-stained fingers—at union rates—these are actuated by special reproducer units designed for that particular instrument. The units are actuated in turn by an electric pickup for

phonograph records, or the detector and amplifying circuits of any radio set.

Not Limited in Reproduction.

The phantom orchestra is not limited just to instrumental reproductions, but perform equally well on everything from "Cohen on the Telephone" to hundreds of voices with organ accompaniment. It has repeatedly run the entire register of audible sounds without noticeable distortion at any volume, Mr. Smith declares.

The invention is particularly adaptable, he states, for use in auditoriums, hotels, motion-picture theatres, and for dancing or concert purposes. Installations will cost in the neighbourhood of from 1000 dollars to 2500 dollars, depending on the size of "orchestra" desired.

THE A.C. SET

COST OF PROGRESS.

The advent of the modern alternating-current vacuum tube has left a great wreckage behind it; this tube has made obsolete the great majority of the old battery-operated sets, which will now be used only where there is no house current available. As far as the United States is concerned, that is true for only about 40 per cent. of the population; the other 60 per cent. of the houses are wired for electric current, and ready for socket-operated sets.

It is a curious fact that some of our largest set manufacturers are the greatest sufferers from the march of progress. When, late in 1927, it became necessary to make the switch from the battery set to the alternating-current-tube set, a number of manufacturers were left with huge stocks of battery-operated sets on their hands. They could not dispose of both types of these sets, any more than you could sell

straw hats and fur overcoats in the same month; so a number of them had to take huge losses on great quantities of their battery sets. That is the cost of progress. In New Zealand, however, the battery set will continue to have a steady market for many a day, although the a.c. sets will be in good demand soon.

LOOKING AHEAD

Looking into the distant future, Mr. Hugo Gernsback, editor of the New York "Radio News," says:

"It is quite within the range of possibility that sets will be entirely automatic and will start operating daily at a predetermined time, switching themselves off automatically when the station goes off the air; only to be switched on again when a station goes on the air, if such should be desired. To be sure, you could still switch the set on and off by hand if you should wish to do so.

Then, too, there is always the chance that a totally new discovery will come along that, in itself, will obliterate the vacuum tube in one way or another; and it is even within the bounds of possibility that there will be invented some new device that will require so little power that a small dry-cell battery will operate it for a considerable length of time. This, in turn, would again make the radio set independent of the lighting current and would make it more transportable. But all these things are yet in the future."

U.S.A. PATENTS' POSITION

PUBLIC HOSTILITY.

In the United States a combination of powerful radio manufacturing companies has secured all the leading patents. This is responsible for a rise in price of receiving sets.

The New York "Radio Broadcast" comments on what it considers the unfairness of this combine, and thinks it will cause a public reaction against the companies involved. That journal says:—

An early adjustment of the present situation must be effected, lest it cause the passage of legislation detrimental to all patent holders. Any law which makes a patent less valuable and offers less protection to the owner of a patent will discourage scientific research and rob the independent inventor of his incentive to devote himself to progress. Unless considerable forbearance and cool judgment is displayed by all the parties involved in the present controversy, the only possible outcome is legislation which will permanently weaken our patent structure. Aroused public opinion may exact too great a penalty, unless the patent-holding group be guided by more of the spirit of live and let live.

THE paste inside the ordinary flash-battery is highly destructive, so it should not be allowed to come into contact with carpets, etc.

**BRITAIN'S
BEST
BATTERY**

**THE
ADICO**

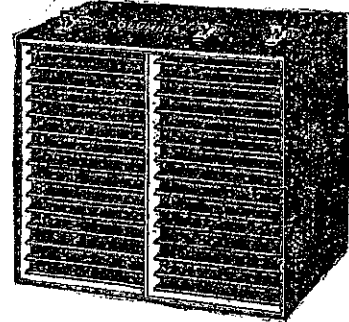
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Our Mail Bag

The All Blacks.

Football Fan: Could you please inform me of the short wave stations, if any, operated in South Africa? We are anxious to listen to the description or results of the All Blacks' matches there if possible. The new 2YA orchestra is all right and shows that the R.B.C. is at last really doing something towards improving programmes. I can only wish reception of 2YA was as good here in Hawke's Bay as is reception of 1YA and 3YA. But we'll hope that will be fixed soon. I am in favour of 2YA testing on 1YA's wave-length. Congratulating the R.B.C. on the new orchestra, and thanking you in anticipation.

[There is a short-wave station at Johannesburg working on 25 or 32 metres (given variously), but as explained last week, S.A. is very rarely if ever heard in New Zealand. Mr. Bell, of Waihemo, did hear it once on Morse, but ordinarily it is out of the question. Results will be broadcast at first opportunity after receipt by cable.—Ed.]

A Joy to Listen To.

A. M. Poyton (Masterston): This is merely to tell you the pleasure the new orchestra from 2YA has given us this week. It is a joy to listen to, and comes through in full tone.

Rebroadcasts Desired.

W. C. Fitzgerald (Hastings) inquires if, as the afternoon sessions of 2YA are good, but over-done with canned music, and the Broadcasting Company rebroadcast during the afternoon sessions a little of the American short-wave broadcasting stations, if not other foreign stations.

Vibrophone Wanted.

C.H.W. (Wellington): Is it not possible for us to hear the very fine vibrophone in the studio? As far as I know, it has only been broadcast once. Surely someone could be found to give us a tune of this fine instrument. It must have cost a lot of money, and it is a shame for it to be left untouched. By the way, can you inform me when the dinner hour sessions commence and the dinner music at night?

[The vibrophone is now used regularly in conjunction with the orchestra, and an announcement in regard to the dinner session will be made in the near future.—Ed.]

The Jealousy Bug.

"Where's Christchurch?" writes: Although the "Radio Record" is not posted to me but to one in the family, I am always anxious to read it, and this week, when I picked it up and read about Auckland being next with an orchestra, I thought of the same old tale, "jealousy." I think that the Broadcasting Company has been very fair, because in the first place Auckland was first with the new station, then Christchurch, then Wellington; now Wellington receives an orchestra, then should come Christchurch or Dunedin, then Auckland. Why should the North Island receive everything first? What I can see of it is that if Auckland had her way they would have had 2YA's power up there. I thank the company for its fairness, and I am one who hopes to see it continue. Now, may I say, in reference to the orchestra in Wellington, that it is the best I have ever heard, including American stations; and so I wish to thank the Broadcasting Company for the way they have carried out their work right through.

Another Little List.

N. C. Fitzgerald (Hastings): Regarding listeners' logs, my total is 62 on broadcast waves, and I can add 53 short wave stations. My aerial is 25 feet high and 120 feet long—a poor aerial compared with most. My earth, I think, is what counts most. No. 12 gauge wire is used, and is attached to the main pipe of a well. All stations have been located within the last four months, and now American stations are coming in in great numbers—ever increasing.

Letter from New South Wales.

J. W. McNamara (Barillar), New South Wales: I received a copy of your interesting paper through 2YA, and I find it very interesting. Being a listener-in and the owner of a five-valve set, I often tune in on all the YA stations over your side, and find their programmes splendid. I noticed in your "Mail Bag" column a letter from Mr. J. Nardstrand, Orielaki, headed "Who's the Stranger?" It is JODK, Japan, transmitting on 345 metres. I had the same experience of picking this station up as Mr. Nardstrand. I was tuned on to 2BL, Sydney, and JODK chipped in so loud that I moved the dials back two numbers and tuned it in on full loud-speaker strength. If M. Nardstrand takes notice he will hear the announcer say JODK quite plainly. The stranger is very crowded in on 2BL's programme. If he waits until 3LO closed down he will also hear JOAK on a fairly loudspeaker strength, and JOBK on 4QG's wavelength. JOCK is two numbers further on than 2BL, Sydney.

Country People Appreciative.

"Not a Grumbling Howler": Several letters in the newspapers upbraiding the Broadcasting Company regarding programmes, announcements, etc., bears out the saying that you can please some of the people some of the time, but not all the people all the time. I consider the company have done all in their power, and a marked improvement has been the result. Rome was not built in a day. Try and help the company—not go against them. I

presume most of the howlers are town people. Well, let them come and live in the backblocks, where radio is our only form of entertainment, and they will soon cease grumbling. They would then appreciate wireless, and not go into print over little trivial things. What do they expect for their 30s. per annum? Now take the Sunday afternoon session from 2YA. Is this not proof that the company is out to help. I have had wireless installed for two years, and have never yet had cause to grumble.

Information Wanted.

J. G. Mason (Tuakau).—In the "Radio Record" I have read with interest the reports on D.X. reception and harmonics of locals. Perhaps my log may interest fans. In my receiver, a five-valve neutrodyne, but not employing the last audio stage, I have logged the following stations:—KFON and 240 KC (241.8 metres) on sixty nights since last November; HGER, 1290 K.C. (215.7 metres), 100 watts output, both at Longbeach, California, U.S.A.; KFKB, 1240 K.C. (241.8 metres), Milford, Kansas; above three stations verified; and KBX, 1250 K.C. (239.9 metres), ortland, Oregon; KWUC, 1230 K.C. (243.8 metres), Le Mars, Iowa; and JOAK, Japan. 2YA's and 4YA's second harmonics, and also 3AR's, have been clearly heard. The harmonics of 4YA come through at fair speaker strength, and louder than the 463-metre wave. Would be very pleased if any reader could identify these stations: One operating on a frequency very close to 1290K.C. (215.7

metres), KGER's frequency, on May 1 and 2, and transmitting orchestral numbers both nights. On the first night the announcer mentioned that one item was for Mr. —, manager Los Angeles theatre. Considerable interference from KGER both nights. On May 5 a station with call K???, operating between 306 metres and 333 metres, transmitting up to 8 p.m., when 1YA commenced, orchestral items, and

2YA.

*If the night is dark and dreary,
If you're feeling tired and weary,
If you'd like to feel more cheery,
Tune in to 2YA.*

*What's this sound that comes a-
winging?*

*It's the sound of 'cellos singing,
And sweet music is a-ringing
From 2YA.*

*Oh, there's the town clock pealing!
Is it happier you're feeling?
Is contentment o'er you stealing?
Three cheers for 2YA.*

—An appreciation from "Super-
het," Hawke's Bay.

songs. Then on May 6, at 5.25 a.m., a station operating on about 360-375 metres, transmitting an orchestral number; then morse interference was bad; and at 5.30 a.m. must have signed off, as nothing further was heard. On Sunday night, May 6, logged a station just below KFON, broadcasting a song; then KGF (?). The Victorian

station, then mention of "mike fright," afterwards announcing transmission hours. Closed down 7.30 p.m. Very clear, and at good 'phone strength. Has any fan heard this latter station, and if so I would be glad to receive any information on same? To receive any information on same?

Long Life to Orchestra.

J.W. de C. (Masterston): I cannot be classed as one of your frequent correspondents, the reason being that I am so well satisfied with the value received from the B.C. Company for the small outlay that listeners are asked to pay. My reason for this letter is that I feel that we satisfied ones should express our thanks through the columns of your paper to the staff and all who work for our entertainment. My wife and I returned from a holiday on Friday, 4th, and heard for the first time the brilliant orchestra from 2YA. May we be permitted through your paper to congratulate 2YA and to wish the orchestra long life. We think it is wonderful, and for our part we will not be listening to another station (Australia included) the nights the orchestra is on the air. We thoroughly enjoyed the programme from 2YA on Saturday night. [Suggestion regarding elections will be considered.—Ed.]

Two Great Nights.

Tinopai (Wellington).—Please allow me to pay many tribute to two outstanding performances put over the air by 2YA. The Shakespearean night, arranged by Mr. Byron Brown and put over by 2YA, was of outstanding merit. It would not be fair to single out any particular artist, because the whole was a treat and a joy to hear from start to finish. Mr. Brown is

deserving, not only of our praise, but of our thanks, for getting such a band of artists together. Truly a memorable night. The other I wish to compliment 2YA on is the comedy, "Tone," put over by them, and so artistically performed by Mr. Stanley Warwick and his pupils. Mr. Warwick, his pupils, and the station are to be congratulated for such a delightful evening. Let me say that 3LO or 2FC have got nothing on 2YA, and that's that. Cheerio.

An American Suggested.

D.X., Rotorna, says the station Mr. Ellis has been hearing on 235 metres is almost sure to be KFWM. This station has been coming in at fair strength lately and usually closes down early in the evening. DX sends a good list of stations heard distinguished by the following Americans: KFTD, KFVI, KNRC, KQW, KFI, KGER, WFAA, KFWM, KYA, KFAB, KEX, KOIN, KFRC, KJR, KGO, KHQ, KHJ, KSL, WBBM, KFSG, CNRV (Canada), KMOX, WRAM, KPHB, KMO, KOMO, WLAC, KPO, KNX, KPSA, KPWB, KGA, GXT, KFON, KFWO, WOWO, KFUF, KPSD, WRVA, WRHM. The total of all stations is 72, apart from 40 on short wave.

Another Suggestion.

E. R. Moss (Greymouth): Re S. K. Ellis's (Okato) inquiry in your issue of May 18, as to who the stranger is on 235 metres (KFON's wavelength), this station is 3EF, Victoria, but I know of no other particulars about him. He closes down at about 10 o'clock, and sometimes a female does the announcing. With regards to Mr. Ellis's inquiry as to the best five-valve list, I beg to offer my small lot. I know it will be easily beaten. I have a five-valve (broadcast band only) and my list comprises 18 Americans, 17 Aussies, 13 New Zealand, three Japs and three amateurs. Must add my congratulations to the new orchestra at 2YA, but please don't stop those beautiful trios from those great artists, Symons, Ellwood and Short; they are a great treat and a great advertisement to station 2YA, and a great advertisement to New Zealand. I have no faults to find with the New Zealand Broadcasting Company; they manage to find talent for all tastes and are improving every week.

Harmonics.

G. C. H., Masterton.—In reply to letter from W. S. (Tokomaru Bay), appearing in the "Record" of May 25. As the first harmonic of a station is exactly half the actual wavelength it should not be possible to bring in the harmonic of 2GB on a set that has a range of 500-600 metres which, according to the dial settings given by "W.S.", appears to be the range of this set. May I suggest that the station logged was 3DB?

As regards logging 2FC on the setting of 1ZB and 4YA, I think "W.S." will find that he has been listening to a reproduction of the gramophone record called (I think) "2FC Sydney," in which "Mr. Mike" plays a prominent part. Since my earlier letter I have logged 2YA on the first harmonic, viz., 210 metres.

Some Short-wave Strangers.

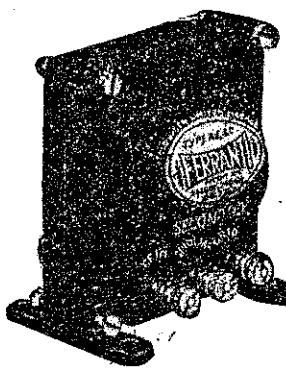
Mark Churton (Auckland).—There has been some discussion on the number of stations received with various types of radio sets. I wrote to you on a previous occasion and gave a description of my receiver, together with a list of stations heard. However, since then, I have rebuilt my receiver. The receiver is wired up so that I can use either two or three valves; the only time when I had occasion to use the headphones on the third valve was to receive 4YA at 6 p.m.; they were just audible on the second valve, but the third brought them in at quite good strength. A peculiar fact has been noticed with 3ZC Christchurch; this station can be heard at quite good strength on their afternoon session (5.5-5.45 p.m.), but are unable to be tuned in on Tuesday evening's session at 8 p.m. When I heard this station first I thought I had struck a Yankee, and although it was not, I was not disappointed, because daylight reception from a 50-watt station, 400 miles away, is pretty fair.

[A list of stations supplied covers a big range, including a large number of New Zealand amateurs and many overseas short-wave stations.]

I listened yesterday to PCJJ's test, from 2.30 to 5.30 p.m., when the signals faded out. Copied down all the details of the reception and let the local Philips agent have them. About 1 a.m. this morning I heard JOAK and JOBK. At 2.30 a.m. there were still seven carrier waves on the air. Four of these were recognised as JOAK, JOBK, JOCK, and KZRM, according to their wavelength, but the remaining three are "strangers." Perhaps some of your readers could give me some idea of their whereabouts.

WHEN an accumulator (wet battery) is fully charged the chemical reactions between the electrolyte and "the plates" are completed. If the charging current is maintained after this stage is reached, it splits up the water of the electrolyte, so that the cell discharges a mixture of hydrogen and oxygen. Hydrogen by itself will burn but not explode; but when mixed with air, as it would be at the vent-holes of the battery, it will explode violently if a flame be applied to it. Moreover, a mixture of H and O also is explosive. But there is no danger at all unless a naked light or glowing body is very near the battery.

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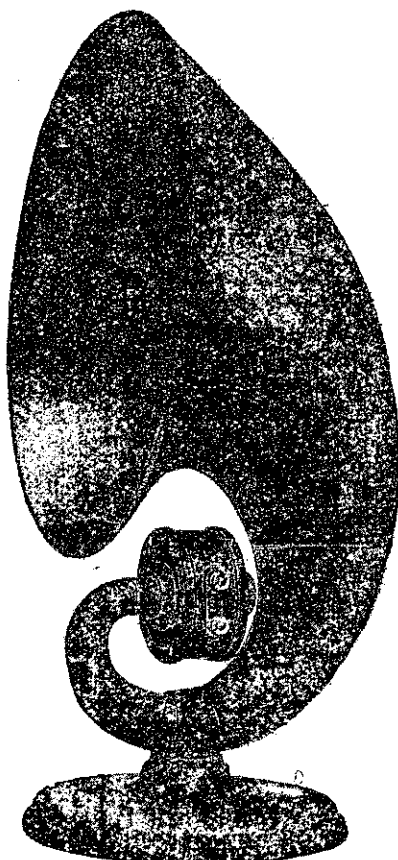
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THE NEW ZEALAND

Radio Record

PUBLISHED WEEKLY.

Printed Tuesdays to permit of effective distribution before the week-end, with full copyrighted programmes for the succeeding week. Nominal date of publication Friday.

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A. J. HEIGHWAY,
Managing Editor,
"The N.Z. Radio Record,"

P.O. Box 1032.
Dominion Buildings, Mercer Street, Wellington.

WELLINGTON, FRIDAY, JUNE 1, 1928.

EDITORIAL NOTES.

A REVIEW of the position arising out of the number of licenses officially recorded as obtaining at the end of April, which appears elsewhere, is commended to the notice of listeners. This shows that there has been a reduction of approximately 20 per cent. in the licenses issued. Even allowing for the natural variation which is to be expected at this period, it is considered that this fall is to some extent accounted for by dilatoriness in renewing on the part of those who are still operating sets. The Postal authorities consider the period of grace so far given is ample, and state that for the future rigorous prosecution will follow in every case brought to light of listeners operating sets without licenses. Further, it is to be noted that the mere dismantling of sets by those who are no longer listening is not sufficient to escape liability. A fine of £10 is liable to be imposed on those who fail to notify the authorities that they have dismantled their sets. The regulations are firm and clear, and in view of the determination of the authorities to clean up the position, it behoves those who may be affected by the regulations to see that their status is put right at the earliest possible moment.

APART from that aspect, there is to our mind a definite responsibility upon the general body of listeners to protect their own interests by seeing that unlicensed neighbours do not secure free entertainment at their expense. That is what it amounts to. Programmes are directly dependent upon the revenue available. Revenue is derived only from listeners and dealers. Listeners have it in their own hands largely to determine the quality of the programmes made available. The company has steadily shown its preparedness to expand services in line with the growth of revenue—in fact at present it is, to our mind, quite palpably spending above its present income. The fare being given is definitely good—there is greater popular satisfaction at the moment than at any other time—but its maintenance and further expansion will depend upon the response of the listening public and the return of the number of licenses to normal.

THE discussion of the reception problem of a correspondent in Hawke's Bay as presented by the phenomena of perfect reception of 3YA's rebroadcast of 2YA, while the original transmission from 2YA could not be satisfactorily received, which is given elsewhere, will be read with interest by listeners. Considerable interest was displayed in the question, and papers were received from all parts of the country. The most popular and general solution was the superiority of reception over water to that of reception from a station operating solely over intervening land masses. The encouragement of discussion on problems of this nature through our columns is, we think, desirable, and we are prepared to offer similar prizes for discussions on subjects which lend themselves to treatment in this way. Will listeners please advance their suggestions and problems?

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Read the letter from the man who owned the set:—

"... I am now able to put before you a much bigger list, which includes 22 American, 14 Australian, 9 New Zealand, and 6 Foreign Stations, all of which were quite able to be distinctly heard on the speaker. ..."

"I expect before the winter is over, to be able to log somewhere in the vicinity of 80 stations, and I think this will do that too."

SPORTING

NEXT WEEK'S BROADCASTS

RACING AND RUGBY

Monday, June 4.—Great Northern Steeple, etc., Auckland Racing Club's meeting at Ellerslie, 1YA.

Wednesday, June 6.—Auckland Racing Club's Great Northern meeting at Ellerslie (by courtesy of club), 1YA.

Saturday, June 9.—Rugby, Eden Park, 1YA; Rugby, Athletic Park, 2YA; Rugby, Lancaster Park, 3YA; Rugby, Carisbrook, 2YA.

RUGBY CHAMPIONSHIPS

POSITIONS OF TEAMS.

At this stage it may interest many to know the leaders in the Senior Rugby competitions in the four centres as prior to matches of June 2, 1928.

Auckland.

Ponsonby 10

Varsity 7

Grammar 5

Wellington.

Oriental 10

Old Boys 8

Athletic 8

Poneke 6

Varsity 6

Christchurch.

Varsity 5

Christchurch 4½

Dunedin.

Varsity A 12

Kaikorai 12

"THE STUFF PUT OVER"

AN AMUSING INCIDENT

AS typical of the clash of tastes in regard to programmes, a South Island listener writes to 2YA as follows:—As a change from the chorus of complaints which rages round all programme directors, I should like to say "Thank you." I have enjoyed the much-abused trio and know that my family has also. Last night (Monday) the programme was excellent in spite of a somewhat temperamental set borrowed to educate a musical relation. The said musical relation was much amused when someone came to him this morning and said: "Have you got a radio? No? Then don't. You've no conception of the stuff they put over. My God! Last night's stuff was awful." Yet we had enjoyed it immensely. One imagines that if programme directors were offered their haloes on condition that they conducted the angelic chorus they would hastily apply for transfer to another place. Meantime, when at home, we are accustomed to use 2YA as a standard.

N.Z. RADIO

LISTENERS' GUIDE,

1928-9

A VERY hearty welcome has been given this work by the radio world, and we have received many congratulatory letters and messages concerning it. What is even more satisfactory is the flow of telegrams and orders for larger supplies. We aimed in the compilation of the book to give superlative value, and we are naturally glad that this has been appreciated.

Mr. F. W. Sellens writes:—"In glancing through it I have been struck by the vast amount of general radio information you have got in the 'Guide.' I have a number of 'Guides' and 'Handbooks,' and without any doubt there is considerably more in this than any I have seen before. Congratulations!"

Another esteemed correspondent writes:—"Many thanks for copy of the Guide. I congratulate you upon getting such a mine of information together. The general get-up of the book is very pleasing."

A SPECIAL purpose in the compilation of the book is to serve those who are embarking upon the radio field, and in that connection we would say that listeners who may not require it themselves—although the up-to-date statistical information and glossary of wireless terms, not to mention the extremely valuable valve guide section, make it almost indispensable to all—would be rendering newcomers a service by recommending the book to them. The whole of the information in the work is specially adapted to New Zealand conditions. The price is 2/6 from any radio dealer or bookseller stocking radio literature, or from ourselves, P.O. Box 1032, Wellington. Postage 3d. (2/9).

A NIGHT OUT

JAPS. AND MANILA HEARD

GOOD RECEPTION RECORDED.

G. C. HOLMES (Masterton) writes: On Friday last I wrote reporting reception of three of the new Japanese stations, JOBK, JOAK, JOHK. Last night, Saturday, the 19th, I again made a night of it, and was successful in logging two more of the Japs, viz., JOHK (sitting just half a point on the dial below 4QG), and another (setting two points below 3LO), which I presume is JOIK—did not get call letters from this station. Also logged JOAK again. Later I met with further success, picking up KZRM, Manila (heard the call letters, plainly, on three occasions from this station). The following is an abridged copy of my "log":—JOHK: 12.24½ a.m., music and singing; 12.25½ a.m., announcement, "JOHK JOHK," and speech in Japanese. A peculiarity of pronunciation of the letter "H" was noticed, the letter being pronounced as having two syllables, something like "H-E"; 12.26 a.m., gramophone item; 12.28 a.m., announcement, "JOHK, JOHK," etc.; 12.29 a.m., woman singing; tuned out; tuned in again 12.30 a.m., music (Japanese); 12.37 a.m., announcement, "JOHK, JOHK," etc.; 12.38 a.m.: gramophone selection; 12.40 a.m., announcement, "JOHK, JOHK," and further speech. (I think the announcer said, "I don't know much..."); 12.41 a.m., Japanese music and Japanese man singing tuned out 12.47 a.m.; tuned in 12.48 a.m. in middle of announcement; 12.48½ a.m., orchestral selections on air being the "Foreador" song; 12.52 a.m., a few words in Japanese, then "JOHK, JOHK... Sindai, Komahe (?), then further speech and the call letters at least eight times. The station then appeared to close down. Tuned out 12.56½ a.m.; tuned in at 1.2 a.m., and found the station back on the air, but heard nothing till 1.7 a.m., then speech in a different voice from the usual announcer. At 1.8½ a.m. the usual announcer, "JOHK, JOHK... Sindai—(pause)—JOHK, JOHK," etc. (Pause) "JOHK... Sindai," etc.; 1.11 a.m., item by man and woman; can't tell whether singing or talking. Tuned out.

VOLUME most of the time was simply wonderful. As an instance, at 12.42 a.m. the music and singing I heard clearly standing in a room at the other side of the house, about 30 feet from the speaker, with two walls and the hall between.

JOIK: 1.15 a.m., Japanese music; faded; 1.18 a.m., man singing (Japanese); faded; 1.19 a.m., and as volume not too good, tuned out.

JOAK: 1.25 a.m., orchestral selection with vocal refrain; pause; 1.28 a.m., gramophone selection again, "Rose Marie," 1.31 a.m., speech in Japanese, then "JOAK," the station then going off the air. This station also was received with good volume.

KZRM: Listened from 1.44½ a.m. till 2.42 a.m. Only at times was volume good, and there was a good deal of fading. A boxing match was in progress—could hear the announcer's voice and the crowd cheering. At 1.55 a.m. got the announcement, "KZRM relaying from the Olympic Stadium. ..."

(A peculiarity of pronunciation is that "Z" is pronounced "ZEE.") Then further description of the fight. At 2.14 a.m. call letters given again. At 2.22 a.m., announcement, "KZRM broadcasting the main event from the Olympic Stadium," etc. The contestants' names were given, one being "Joe Hall." I gathered it was to be a fourteen-round contest. Then followed a description of the fight. Caught scraps of it now and then, till I tuned out at 2.42 a.m.: static spoilt reception.

Trusting the above will prove of interest to DX fans.

DUE to the decision of the Washington Conference that the band for long-wave stations shall be 1340 to 1875 metres, the wave-length of the Eiffel Tower station, now 2650 metres, is to be altered to 1400 metres this year. It is probable that the power will be raised to 100,000 watts.

2YA CHURCH SERVICE COMMITTEE

MEETING HELD IN STUDIO

BROADCAST ROTA DISCUSSED.

A MEETING of the 2YA Church Service Committee was held at the studio of 2YA last week. There were present: Reverend Clarence Eaton (Methodist), Reverend F. G. Harry (Baptist), Pastor Carpenter (Church of Christ), Rev. C. V. Rooke (Anglican), Rev. R. S. Watson (Presbyterian), Rev. Ernest Weeks (Congregational), and the official representatives of the Radio Broadcasting Company, Limited. The Rev. Mr. Weeks was unanimously elected chairman for the ensuing year.

Various matters relative to the broadcasting of Sunday services were discussed, appreciation being expressed of the service rendered by the company in this connection.

Some time was devoted to the question of the broadcast rota. The Rev. Watson expressed the view that the proportional system should be adopted, taking the relative strength of the general denominations as disclosed by the national statistics as a basis, and framing the rota in equitable conformity therewith. He had found from experience that this system worked satisfactorily in the appointment of chaplains to military camps, and he had noticed that the broadcast rota for 1YA (Auckland) had been worked out in an agreement founded on the proportional system. He did not suggest that the system should be applied arbitrarily. Indeed he considered that in the arrangement as made in Auckland, his own church had been, if anything, too generously treated. He thought, however, that in its broader aspect the proportional allocation of dates would prove the more satisfactory.

This view was endorsed by the Rev. C. V. Rooke.

Other speakers considered that the efficiency of the broadcast service rendered should be primary consideration, their chief objective being to give the listening public the best and most effective service possible regardless of denominational considerations. In substance, their argument was that the rota should be determined rather by circumstances than statistics, and in this connection Pastor Carpenter cited the fact that his was the only church of his denomination that was broadcast from either of the four stations, that in quite a number of cases smaller churches of his denomination scattered throughout country districts now linked up with the broadcast service from his church, and that consequently a rota based on the proportional principle would mean that his church would only be on the air probably once a year.

After discussion it was unanimously agreed that the rota in operation since the opening of 2YA should be continued for three months, to permit of two complete circuits being broadcast before the question of apportioning dates be further considered. It was pointed out that there were one or two denominations who were not yet ready to accept the company's invitation, and the postponement of the finalising the rota would therefore enable the matter to be dealt with more satisfactorily after the decisions of these denominations had been made known.

It was decided that the next meeting of the committee be fixed for Tuesday, July 3.

A LONDON radio trade journal reports that "a new exponential spiral horn loudspeaker, utilising a good quality unit, is selling especially well in Germany at the moment. This points to the fact that instruments of this type are more than usually popular in that country, and British manufacturers of low-priced, efficient exponential horn loudspeakers will no doubt profit by this fact."

THE crystal as a wireless detector was discovered by an American, General Dunwoody, in 1906.

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20 per cent Drop in Licenses

Degree of Responsibility on Listeners

DEPARTMENT TO UNDERTAKE PROSECUTIONS

THE detailed figures of licenses issued in the various centres as at April 30, which we published in last week's issue of the "Radio Record," show an all-round drop of approximately 20 per cent. from the number current at March 31. Curiously enough, the percentage of loss in the different centres varies considerably. Dunedin heads the list for staunchness and promptitude, her deficiency being but 10 per cent., while Canterbury exceeds 25 per cent. Auckland and Wellington are practically even in their percentage loss, with a slight superiority on the part of Auckland.

WHILE a certain loss from residential removals, as well as from those upon whom the novelty has worn off, is inevitable, it is considered certain that a goodly percentage of the 20 per cent. deficiency must be accounted for by the natural "lag" of human dilatoriness, and that there are still many thousands operating their radio sets who have not taken out renewals. This is a position which very closely concerns every listener, because the loss of that revenue will inevitably react into the service given. In equity no other principle can apply but that the quality and extent of the programmes must be commensurate with the income provided.

TWO months have elapsed since the obligation to renew their licenses fell upon listeners. Henceforth, we are authorised to say, the Department will prosecute in every case of failure to renew a license by anyone still operating a set which is brought to light.

SOME listeners who have not renewed their licenses but have dismantled their sets consider they are thereby freed from further obligations. That is not so. Under the regulations any listener dismantling his set is required to notify the Department to that effect. Failure to do so renders the listener who still retains a dismantled set liable to a fine of £10. While a certain number of listeners have notified the Department of the dismantling of their sets, the number is small compared with the 8000 odd who have failed to renew. Steps are now being taken to check over the old licenses with the new with a view to the prosecution of those who are either still operating a set without a license, or, if it is dismantled, have failed to notify the Department to that effect.

MANY listeners may be inclined to think that if their own license is in order they have no further responsibility. This is a very narrow view to take, as it really means that they are content to provide their unlicensed neighbours with entertainment and be content with a lower standard than they might otherwise enjoy. The responsibility definitely falls back upon each listener, for he is missing something by the continued defection of his neighbour. It is unreasonable for any body of listeners to carry the burden of their neighbours.

RECENTLY patrons of 2YA the Dominion over have been delighted with the establishment of the orchestra, which is definitely regarded as the finest combination of its kind in the Dominion. This has been introduced in addition to maintaining the rest of the programme on the high standard already established. In view of that, we feel perfectly safe in saying that at present the company, in maintaining this standard, is exceeding the revenue provided by those who have so far renewed their licenses. Obviously there is a limit to the extent to which that can be carried.

TWO further progressive moves were recently indicated by the company—a dinner session of suitable gramophone music from 2YA and the establishment of an orchestra for 1YA on lines similar to 2YA. Already straining, and even exceeding its resources, the company cannot be expected to proceed with these extra services till licenses return to that standard upon which progress was based. From this point of view it is incumbent upon all listeners to see that all who are receiving wireless entertainment realise their obligations and bear their share of the cost of same; otherwise the whole body of listeners and the quality of the service are bound to suffer.

IF listeners would co-operate with the Postal authorities in the effort they are making to locate unlicensed receivers by passing the necessary information to the company or the Postal authorities, the position would speedily be retrieved and the progress of radio and the provision of better services be maintained.

1YA CHURCH COMMITTEE

The third meeting of the 1YA Church Service Committee was held at 1YA Studios on Monday, May 21, 1928. Present: Mr. S. J. Hayden (in the chair), the Revs. E. Drake, W. D. Morrison-Sutherland, H. M. Smyth, Geo. Helgeway, Messrs. D. Donaldson, Mr. D. Wrathall.

The Radio Broadcasting Company wrote enclosing copies of letters which had been sent to the Right Rev. Dr. Cleary, of the Roman Catholic Church, and Lt-Colonel Toomer, of the Salvation Army. These letters advised the two churches in question that a church service committee had been formed and that such committee would be pleased to give applications for broadcast from the churches in question, the same consideration as if these two denominations were represented on the committee, and further stated that the company would be pleased to have a representative of these denominations on the committee if the two churches so wished.

Bishop Cleary advised, in reply, that his church very much appreciated the company's offer, but did not for the present desire representation on the committee. The Salvation Army replied to the effect that they were pleased to note the company's offer, but did not desire the ordinary Sunday service broadcast unless such service was of a special nature, but would be glad to contribute band and vocal items on week nights.

The application of the International Bible Students' Association for the allocation of a Sunday broadcast, which was considered at the last meeting and deferred, was then dealt with, and it was decided to recommend to the company that the Bible Students' Association be allotted one Sunday afternoon broadcast, subject to the assurance from the association that no matter of a controversial nature be introduced.

An application for services to be broadcast was received from the United Evangelistic Mission Association. The application was deferred to enable enquiries to be made as to the type of service proposed and the objects of the association.

It was decided to meet again on Monday, July 16, at 2 p.m.

3YA CHILDREN'S SESSION COMMITTEE

A MEETING of the 3YA Children's Session Advisory Committee was held at the Radio Broadcasting Company's studio on Monday, May 21, Mr. Parton presiding. Also present were: Mesdames Machin (National Council of Women), Norton Francis (Parents' National Educational Union), James (Scottish Society), A. R. Hall, of the administrative staff of the Radio Broadcasting Company (principal of the Children's Department), Miss Pim (Y.W.C.A.), and Miss Maynard Hall of 3YA (children's organiser for 3YA, and secretary of the Children's Session Advisory Committee). Messrs. McEldowney (Big Brother), E. J. Bell (Uncle Jack), Dickson (Juvenile Scottish Society), Clark (Headmasters' Association), Brother Henrick (Marist Brothers and Convents), Major Ashworth (Boy Scouts), Misses C. S. Booth (Chuckle), L. Slade (station director), and Clyde Carr (announcer at 3YA and Uncle Sam). A general and very useful discussion on the children's session ensued upon the reading of a letter from Miss Colburn-Feel, and a vote of thanks, appreciative of her interest, was passed.

As to whether it would be better to have a large or small choir for broadcasting purposes in connection with the children's session, it was decided that the number should be limited to 20.

After discussion of the form of programme, it was agreed that a variety of items interspersed with stories, letters and greetings held the child interest more than grouping would do. The element of surprise was one of the features of the children's programmes.

The next meeting was fixed for Monday, June 18.

IT does not seem to be realised by some wireless enthusiasts that a dusty panel is by no means desirable. In sets of the old type, where panels are arranged in a sloping position with external valve holders the dust is in that dust is an undesirable commodity. Panels should, therefore, be periodically dusted with a camel-hair brush and kept scrupulously clean.

Notes from Auckland

(By "Listener.")

ON Friday last 1YA made further progress in relaying sporting broadcasts, by putting over an excellent account of the Hay-McKnight boxing contest in the Town Hall. The description was racy and interesting, and compared favourably with those given regularly from Sydney. As an account of a rather one-sided match, it was equal to anything that the writer has heard from the other side of the Tasman. Incidentally, it aroused among thousands who had never witnessed a boxing contest, a keen interest in the manly art, and the Northern Boxing Association should reap considerable future benefit from the broadcast.

BAND music ranks high in public appreciation, and when a good body of instrumentalists is on the air, few 'phones are not in use, and few loudspeakers are silent. Last Wednesday the Auckland Artillery Band put on from 1YA a programme, light and varied, that simply carried listeners along. Next day there was quite a battery of, "Wasn't the band good last night?" The interspersing of songs, duets, and elocutionary items from the studio provided just the correct balance for a splendid programme.

FOR about a week, conditions for reception have been well nigh perfect locally. Wellington is exceedingly strong, though it fades slightly; Australian stations have been picked up clearly all through the evenings on sets that were really never intended for such long-distance work; and, as for the short-wave folk, to whom a wireless evening is of endless length, they have been revelling in records and urging upon the mere ordinary listener the attractiveness which their special sphere holds.

WITH three days of racing from Ellerslie in prospect, listeners in the country will be well supplied with descriptions of events at the winter meeting. Fortunately, the sporting bodies here have come to recognise the value of co-operating with broadcasting effort, and one no longer hears of any objections being raised to descriptions of turf events.

THE Auckland Listeners' League will hold its annual meeting next month, and the executive is at present engaged upon the preparation of the annual report. The league, with a membership approaching two thousand, is the largest body of its kind in the Dominion. This is to some extent due to the moderateness of its annual subscription—one shilling per member.

EVERY alternate Sunday evening, 2YA receives a big hearing in Auckland. On such evenings the local municipal organ recital is relayed, and its type of programme is not the "draw," for the generality of listeners that the alternate band programme is, so, to the city listener, there is no mistaking the rush for Wellington at 8.30 p.m. There is ten minutes of energetic howling, ere the "nuisances" settle down.

A FEATURE of the most recent license figures is the remarkable and very welcome drop in the number of dealers' licenses issued for the Auckland district. They are now about a third of what they were last year, and there is no doubt that there have disappeared from the trade many who, by rushing into it without capital and with insufficient technical knowledge, did more harm than good to reception. The retailing and servicing of radio apparatus is now settling down into a steady business in capable hands, a fact that will soon be reflected in increased satisfaction among listeners. There is no doubt that the discontent of many who purchased receivers, and their consequent failure to renew licenses, was due to the unsatisfactory treatment that was meted out to them by dealers who made preposterous claims for their wares.

"ARE radio lectures advisable during the 8 to 10 p.m. programmes?" Aucklanders will say, "Yes, provided the lecturers deliver the goods." The series upon old New Zealand, given by Mr. A. B. Chappell, substantiate their statement. These weekly talks have brought very vividly before a large public interesting details of their own land, of which the said public was previously ignorant. And they don't mind admitting their ignorance, or voicing their appreciation of the information they are now gleaming.

NOTES FROM HAWKE'S BAY

THE question most radio bugs are asking up this way at present is when will reception conditions get back to normal? For the past couple of months conditions have been anything but good, and it seems as if, until winter weather arrives in real earnest, static and fading will hold sway.

There has been plenty of volume from all stations, but the tone has not been up to the mark, and for a long time, what can be called a really perfect night has been missing. Some of the dealers must be having

Popular Taste Vindicated

UNIFORMLY HIGH STANDARD REACHED

SINCE the establishment of the 2YA Orchestra readers will be aware we have been operating a system of public nomination in respect of items to be played and items to be repeated. Two coupons have been used—one for "request" items and the other for "repeat" items.

ANALYSIS of the coupons returned proves very interesting, and completely vindicates the good taste of the public. The nominations made on the request coupons have been carefully noted, and a check made with a list of music proposed to be played by the orchestra, prepared independently on its inception by the organisers of programmes. Remarkable uniformity exists between these two lists. This vindicates on the one hand the taste of the public, and, on the other, the judgment of the programme organisers as being prepared and eager to give the public the class of music desired.

THOSE who have sent in requests will be pleased to have the assurance that sooner or later all their items will be played. Future programmes are being based upon their suggestions. So far nothing has been asked for which the orchestra is unable to give, with, at the moment, the exception of "1812," which really should be performed with the assistance of a brass band. Even in this case, however, consideration is being given to the possibility of securing a special score for the combination of a band and the orchestra to be given at a later date.

FOX-TROTS have not proved to be a popular demand. Out of scores of requests, only a very few fox-trots have been nominated—certainly not 2 per cent.

SOME points in connection with requests made for particular nights should be explained to readers. In the compilation of an evening's programme one fundamental rule is the preservation of balance; this rule governed, in some cases, the selection of the "request" item. For instance, "The Poet and Peasant" was frequently nominated, but if already there had been incorporated in that particular evening's programme a somewhat similar overture, a bad balance would be created by the rendition of this item on the same evening. It would, in that case, be set aside for incorporation in a future programme, and some other item chosen from the "requests" which would better accord with the balance of the programme.

CLOSE scrutiny of the "request" coupons now being received shows that they are almost becoming "repeat" coupons, because so much of the music asked for has already been played, while the rest has been noted for future performance. We propose, therefore, to abandon for the time being the "request" coupon. Both we and the company appreciate the interest of those who have used it. The system has been of definite value, and has provided a very valuable check on the public taste, which will guide the compilation of programmes for the future. In abandoning the "request" coupon, however, we wish it to be distinctly understood that the public is still invited to individually forward requests for particular items to the company. They are always gladly received and noted for compliance wherever possible.

THE system of "repeat" coupons will still be continued. This applies specifically to a vote for the repetition of the most popular item on one evening on the same evening of the week following. This is necessary, because each orchestral evening has its character—classical, operatic, popular, and vaudeville—hence the votes for "repeat" items must conform to the character of the programme for the evening.

a happy (?) time trying to sell sets under such conditions.

THE new orchestra at 2YA continues to be subject to complimentary references, and it is pleasing news to learn that a similar move is contemplated at 1YA. This is more than of passing pleasure to local listeners, for strangely enough, 1YA is received here better than 2YA. The Auckland station gives practically as much volume, fades less, and is certainly clearer and of better tone, so it can be pictured that listening to an orchestra like 2YA possesses, from 1YA will be a real radio treat.

JUST what is the matter, or at least the reason, why 2YA is not up to the mark here is hard to say. Its afternoon transmissions are great, but at night it seems to bottle up its music and speech, and fails to deliver the goods with crystal clearness that invariably marks 1YA and 3YA. Of late 2YA has been worse than usual, and occasionally it has been a close rival to 4QG with its mushiness.

LOCAL listeners were highly delighted with 2YA's broadcast of the Melton-Leckie boxing contest. It came through in great style, after a rather indifferent first-part programme from the studio. Mr. Aldridge made quite a good job of the broadcast, but if he will not mind accepting a little hint (for future reference), he would have been more pleasing had he got a little more excited than he did. The excitement of the broadcaster is usually infectious, as far as the listener is concerned, and this no doubt is the reason why the R.B.C. sports announcer, Mr. Allardye, is so popular, and also why so many people sit up late on Saturday nights to tune in to the Sydney stadium. Mr. Aldridge did not give enough description of the

contest, and between the rounds a brief resume of the previous round would have been welcomed. However, he will no doubt correct any faults he may have discovered, and can rest assured that his future broadcasts of boxing from 2YA will be welcomed with open arms. The R.B.C. is to be congratulated also on catering for the desires of the boxing-loving public.

The H.B. Radio Society's appeal for funds to install a receiver and headphones in the Hastings Memorial Hospital is being very slowly answered. To date about \$56 has been received, but this is a long way from the required \$300. H.B. listeners please note!

TALKS TO KEEPERS OF POULTRY

USEFUL talks to poultry raisers are now being given from 1YA and 3YA by Mr. Geo. Ambler and Mr. H. W. Beck respectively.

These talks touch on methods of culling, housing, sanitation, the relationship of these practices to egg production and other factors entering into the making of poultry raising profitable.

Mr. Ambler is well known throughout New Zealand as an authority on poultry, having noted in the capacity of judge at poultry competitions in all the principal centres of the Dominion. Mr. H. W. Beck is also a recognised authority.

All interested in the domestic fowl and other birds should note when these two lecturers are on the air.

The familiar voice of 3YA's announcer, the Rev. Clyde Carr, will be off the air for a fortnight, during which time Mr. Carr will be on holiday leave. The kiddies will miss Uncle Sam as much as will their elders.

'Repeat' Coupon

Address: 2YA 'O, Radio Record, P.O. Box 1032, Wellington.

I desire to nominate the following items for "repeats" next week:—

| | |
|-----------------------|-------|
| Monday (Classic) | |
| Tuesday (Operatic) | |
| Friday (Popular) | |
| Saturday (Vaudeville) | |
| Signed | |

Votes may be recorded for one or for all of the nights mentioned. This selection is made at mid-day for the evening affected. Voting papers receivable till noon. Distant listeners may send forward their Monday's and Tuesday's votes if desired, in order to be in time, and follow later with Friday's and Saturday's wishes. The coupon is inserted for convenience, and may be supplemented in writing.

From the Woman's Point of View.

By VERITY.

TO-DAY AND TO-MORROW

The Play's the Thing!

MR. EDGAR WALLACE'S manifold contributions to present-day play-acting do not come under the heading of dignified drama. Frankly written for the gallery and the man in the street, appealing to the love of mystery, melodrama, and desire to "pick the sinner" that is such a familiar human attribute, when the show is over we go home well assured that murder will out, and that it is the part of wisdom to remain a perfect, law-abiding citizen, though sometimes it takes a mighty long time for virtue to find its own reward. The two plays lately presented by the Moscovitch Company so excellently well, have been appreciated to the fullest extent by audiences that nightly thronged the Opera House, and everyone regrets that the season draws to a close. Recovering from the orgy of suspense, surmise, and rapturous satisfaction when the murderer of many is brought to book, one remembers with delight Mr. Moscovitch's perfect realisation of the nuances of his profession, the art and the craft of the actor; and is struck anew by his poised conception and brilliant interpretation, his grace of movement and fascination for the fair in his few sober moments in "The Terror." In this play Miss Riccardo seizes her chance with both small hands, and plays up to the star very gamely and well; Miss Cottell is painfully realistic as the boardinghouse bore we all hate and flee from, and Mr. Ashton Jarry's crafty and subservient butler consistent and finished work. As in "The Ringer," Mr. Newson and Mr. Blunt are convincing as Scotland Yard officials, while Mr. Nat Madison combines efficient art with a quality of magnetism that creates an almost real pang of regret when his red, cold corpse is thrust before us. A talented company all round, each co-ordinating his part to make the performance a thrilling and delightful show.

The Keynote of Happiness.

"I HAVE never been quite happy unless lost to myself in what I was thinking, feeling, or doing," said Mr. John Galsworthy, at the Universities' Congress, Oxford, recently. "Unself-consciousness seems to be the keynote of happiness. One can be absorbed in collecting butterflies or examining Greek roots, or carrying other people up."

"A celebrated surgeon of my acquaintance began to forget himself as a boy by giving his schoolfellows two-pence each to let him take their teeth out, and he is still not happy unless he is taking out someone's appendix."

"I am certain that to be completely lost in what one is thinking, feeling, or doing, is the only way to scotch the kind of malaise which self-consciousness brings. Nature, watchful as an old spider, spies the cases of self-consciousness, and throws up a philosophy by way of cure."

"To realise your actual unimportance in the scale of things demands a sense of proportion and a sense of humour."

A £500 Gown.

COSTING 500 to produce with pearls and diamonds used in the exquisite hand embroidery, which took 12 girls a fortnight to complete, the Court gown and train for the wax model of the Queen in the new Madame Tussaud's, is a beautiful creation.

The gown is in gold fabric. A tinge of rose gleams through the sheen of gold. Heavy gold brocade, woven in a small basket pattern, fashions the train. The Queen has taken a great interest in the gown, which she inspected before leaving for Windsor. She was especially pleased to learn that all the fabric used was of British manufacture.

"Alice" Sold.

"ALICE'S Adventures Underground," the original manuscript of "Alice's Adventures in Wonderland," was sold at Messrs. Sotheby's, the famous London auctioneers, recently to Dr. A. S. W. Rosenbach, of Philadelphia, for £15,400.

Mrs. A. P. Hargreaves, the original "Alice," for whom the story was written by Lewis Carroll, was present at the sale.

There had been eleven-hour efforts to save the MS. for the British nation. Dr. Rosenbach did not intend to oppose any buyer acting on behalf of the nation, and was prepared to offer the MS. at the price he had given for it.

After a good deal of controversy broadcast receivers have been established in many British schools as a teaching medium. Scholars pay so much attention to the broadcast sessions that they are introducing a distinctly new element into the schoolboy "howlers." From a recent budget of examination papers the British magazine "Popular Wireless" selects the following:—

"Wireless is a voice from a box about sponges and where they grow and other weered subjects. The masters seem to like this and quarrel about turning knobs."

"Atoms are what Sir Lodge talks about on a crystal set, and are smaller than mollicoddles."

"Etter is everywhere except between programmes. So then London takes a little piano music till it comes back."

"Induction is what they do to curates."

"Resistance is two kinds—passive-negative and leased. Leased resistance is a line leading to a thing the easiest way."

HOUSE WEARY.

I'm going out! I'm tired of tables, chairs;

I'm tired of walls that hedge me all about;

I'm tired of rooms and ceilings, carpets, stairs,

An so—I'm going out!

Somehow or other what I need to-day

Are skies and birds that carol, winds that shout!

I want Dame Nature's friendship. Thus I say,

"Good-bye—I'm going out!"

It's just house-tiredness, trivial humdrum, strain!

Monotony! But when I've climbed the hill,

My heart refreshed will laugh and sing again.

Dear Home! I'll love it still.

—Ian Drag.

WOMAN AND HER HOME

Rich Digestive Biscuits.

1lb. fine wheatmeal, 3oz. cornflour, 1lb. white flour, 2 teaspoonfuls baking powder, 1lb. butter, half teaspoon salt, 1lb. sugar, 1 egg, milk to mix.

Method: Put all dry ingredients into a bowl, rub in the butter, mix to a stiff paste with egg and milk. Roll out the paste and cut with a small round cutter. Prick each biscuit well with a fork and bake slowly.—Miss Marion Christian, 2YA.

Mushrooms and Kidneys.

3 sheep's kidneys, 1lb. mushrooms, 1 pint stock, 3oz. flour, half teaspoon salt, 1 teaspoon pepper, 1oz. butter.

Method: Skin and core kidneys and cut into halves. Melt butter in pan, toss kidneys in flour, pepper and salt, and fry until brown in the hot butter. Cut and wash the mushrooms in salt and water, dry well in a clean cloth, and fry in the hot butter. Add warm water and allow to boil. Remove scum and simmer 30 minutes. Thicken with gravy. Serve on a hot dish.—Miss Marion Christian, 2YA.

For the Older Woman.

THERE is, perhaps, no type of woman who feels more keenly that clothes are a difficult problem, as the older woman, whose figure has lost the straight and slim lines of youth. Much of the mode is not for her, and it is a fact, that if she is to be chic, she must acquire the art of selecting, or be assisted in selecting, fashions that are right for her amongst the many that are not for her at all. To-day, designers are considering her problems, and no longer does this woman have to choose between the two alternatives, clothes that are too young for her, or those atrocities of bygone days alluringly termed "matrons' models," with lines and colours that made her look far older than she really was. This older woman can now find the newest, smartest models, that, when properly fitted to her figure, give distinction, and make her as smart as her daughter. Dignity and chic are the essentials in choosing the costume for an older woman. The costume should be first of all one that any woman might wear, that is, one that is smart in colour, line, and fabric. She should beware, above everything, of a dress that gives the feeling of having been designed only for a woman who is frankly older and frankly stouter. There is no need for such an admission, and frequently a dress of this type puts the wearer into a class to which she does not belong, and need not for many years to come.—Miss Sproston, Dnmedin.

Pots and Pans.

OUR ancestors took great pride in their ponderous pots and kettles of glowing copper, but aluminium, the modern metal, has taken the place of all that. One can now procure innumerable cooking utensils in this ware that our ancestors never dreamed of. It surpasses all other metals in usefulness, efficiency, lightness and durability, and its brightness gives cheerfulness to the scene. Saucepans are fitted with tubular bronze handles fitted into solid cast aluminium sockets strongly riveted to the pan are highly recommended—they have also the additional advantage of a lid fitted with black moulded heat-resisting knobs, and are a boon to every cook. A steamer can be fitted to each saucepan, a method of cooking vegetables much superior to the old style of boiling in water. Instead of a sodden mass a nice palatable dish is the result. A handy little pot is the self-contained milk boiler. This is fitted with a water jacket preventing any boiling over. The new indented fry pan is an innovation, the rows of indentations in the bottom of the pan acting as a preventive to fish and eggs sticking, a fault very prevalent in the old style. An ingenious and fuel saving utensil is the steam cooker, comprising three and four tiers, the bottom pan being the boiler, the others are fitted with patent valves which can be opened or shut at any period of the cooking. The double roaster is also an excellent cooker and is especially adapted for fowl and meat.—Mrs. M. Thomas, 2YA.

To "Cure" a Tight Shoe.

PUT on the shoe and dab the tight place with a wad of cotton wool or rag dipped in boiling water. Keep on the shoe and walk about for a short time and all will be well. A second treatment is very seldom necessary.

Washing Valuable Lace.

TAKE the lace and wind it around a small wine bottle, sewing the end to keep the lace in position. See that the points of the lace are properly arranged while winding. Make a lather of good white soap and warm water. In it place the lace. Holding the neck of the bottle, well shake the lace in the lather until clean. Do not handle the lace. Rinse in clear, soft water. When partly dry, unwrap it for final drying on a clean white cloth.

More Room in the Linen Cupboard.

THE holding capacity of a linen cupboard can be increased nearly 40 per cent. by fixing "half-shelves" to the back of the cupboard between the original shelves. Cut a length of thin board half the width of the shelves, and support it either on metal brackets or on wooden struts. Fix it rather more than half-way up between the shelves. These narrow shelves are most useful for towels, glass-cloths, and pillow slips, etc.

To Prevent Skin on Boiled Milk.

TO prevent "skin" forming on boiled milk, add two tablespoonfuls of cold milk to every pint when at boiling point, and stir for a minute. The so-called "skin" will then be re-absorbed, and the milk not impoverished.

"THE BETTER WAY" COMPETITION No. 2. MONTHLY PRIZES FOR HOME-MAKERS

ALL women whose homes are to them a source of abiding interest and delight, have their own treasured secrets of housekeeping. It may be an unusual recipe, a scheme for brightening an uninteresting room, a labour-saving notion, an idea for decorative work, a dress or toilet hint, or a pet economy. There is always a special method of performing various household tasks—the "better way." The "Radio Record" offers a prize of half-a-guinea each month until further notice for "Better Ways" from our women readers. The right is reserved to publish any entry not awarded a prize on payment of a fee of 2/6.

Entries must be written in ink, on ONE side of the paper only, and the name and address of the competitor should be written on the back of each entry.

When more than one "Better Way" is submitted by the same competitor, each entry must be written on a separate sheet of paper.

The decision of the Editor is final and binding. A non-de-plume may be used if desired.

The June "Better Way" Competition closes on June 11, and the result will be announced on the women's page on Friday, June 15.

All entries to be addressed: "Verity," c/o "Radio Record," Box 1032, Wellington.

The Letters of Annabel Lee

MY Dear Elizabeth:—To many of us music is the solace supreme; and we all flocked to the Moiseiwitsch concerts, even though on the date of the first one

The night was dark and stormy,
The wind was howling wild.

The great man chose an enchanting programme, of an infinite variety, greatly appreciated by the ever-increasing number of people of cultivated taste in a Dominion which is, after all, still only in the infancy of the arts.

IN the work of this great artist there is fire and force and passion; and a whispering quality of tenderness that caresses the spirit and holds one in thrall. An incomparable technique, of course; and most subtle conception in his interpretation of Chopin, Scriabine, Wagner and the others. The Appassionata Sonata was a thrilling performance; listened to, as was befitting, with close and reverent attention to its wonderful close; and after the inevitable late-comers had rustled and bustled to their seats, there was an exquisite rendition of Debussy's mysterious and lovely "Engulfed Cathedral"; a Stravinsky study in direct contrast, but so fascinating in crystal rivulets of sound that there was insistent demand for an encore, the grave young genius recapturing for us, with apparent ease, his "first, fine, careless rapture." Passionate and wistful and tender were the Chopin numbers; and the final superb playing of the "Tannhauser" Overture transported us from the chilly Town Hall to a realm of pageantry and high deeds, where Titans warred and

loved amid scenes of weird, disturbing beauty. Something barbaric there is in the music of Wagner, something that urges us to strange "dreams and desires and sombre songs and sweet." And unwillingly we drifted out once more to a dull world of gloomy skies and slippery pavements, having lived for a short time in commune with the soul of a poet, a maker of dreams.

THE quality of charm, so ardently desired by Barrie's sweet Maggie in his delightful play, is very useful indeed, and not to be bought with much fine gold; but to the independent young woman, on the hunt for a habitation, which optimistically and somewhat wistfully she hopes to turn into a semblance of home, sweet home, I am convinced that it is a definite drawback. Elsie and I have traversed many mean streets in imperative search; and many a cold and doubtful eye have I seen turned upon that fragile, flower-like face, so reminiscent of the portrait by a famous artist, whose name I cannot recall, of some royal boy in cavalier dress. A calculating look springs as though by magic into the gimlet inspection; a cold shoulder is turned to us, and on occasions a diatribe unloosed on the failings of the modern girl, quite ignoring her virtues, for though sometimes, like Jenny, she is "fond of a kiss, and fond of a guinea," oftentimes she is brave, and good, and gay, pulls her weight, does her job, and helps many a lame dog over a difficult style.

MRS. L——, that attractive grass widow, snips her roses and culls her late carnations these

days in gardening gear of the most striking; wearing a frock that is very straight and businesslike in its daring, of vivid scarlet and orange in effective combination, V-shaped collar broadly bound in black, and silken turban of vivid hue, resembling the bathing cap of yesteryear. All making admirable setting for impudent profile and deeply blue Irish eyes, enviably black-lashed by Mother Nature, and not with the inky, lacquerish preparation that is a very present, though sticky, help in times of trouble to pale brows and lashes. Richard describes her as stunning in this uniform, he being of the faction of mankind to whom a black-clad female is anathema, and a riot of colour—skillfully rioted, he said, for Richard has taste—the be-all and end-all of sartorial success.

IN the next street lives Richard's friend, The Compleat Bachelor, in a flat high above the noise of the town, and almost as near the stars as the happy attic in "Seventh Heaven," though in little else does it resemble that bleak and bare abode of bliss. A few odd bits of old and fascinating furniture strike the right note, there are rugs that flame from the floor, and hail from Constantinople; and many a rare and exquisite print and plate and slim statuette of grace speak of strange ports visited by this wanderer over the globe. Books, also, all over the place, written in the last decade, most of it the work of more or less youthful iconoclasts, who gaily swing axe for desired destruction of leonine heads of the literary gods of Victorian idolatry.—Your

ANNABEL LEE.

Sashes and Scarves.

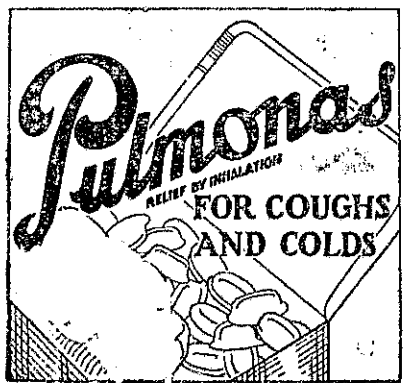
THE scarf, the handkerchief, and the sash have all been put to decorative use by dress designers in planning their new season's creations. A folded silk handkerchief set with the point on one shoulder, and the ends knotted loosely on the other, is a feature of many toilettes both for sports and for afternoon wear, bestowing on them a somewhat Bohemian air. An alternative arrangement, however, is to place the scarf round the shoulders, flounce-wise, and pass it through slots in the material. By this device quite a different effect is achieved.

Brightening Up a Toilet-Set.

TO make a toilet set from oddments to match a redecorated room, procure six sticks of sealing-wax of prevailing colour (in two shades, if liked, the darker for the base of articles); three sticks of black (or silver) sealing-wax; half pint methylated spirit, and an inch-wide paint brush. Melt wax in a lidded tin, each shade separately. When melted (not before) cover with spirit, replace lid, and leave for a few hours. Stipple with thick wax all over the china, leaving an inch border and handles to be done in black. Repeat when dry once or twice.

A Shampoo Economy.

IF a shampoo powder is dissolved in rather less than half a pint of hot water in a wide-mouthed jar, it will set into a jelly when cold, and a little can be taken up in the fingers when washing the hair, and rubbed into a lather on the head. One packet will thus suffice for several shampoos.



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

Some Features of Next Week's Programmes

"IL TROVATORE" AT 1YA

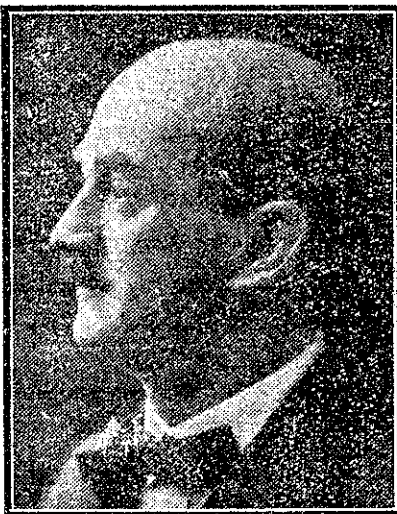
Though the usual silent day, 1YA will be on the air on Monday, commencing at 11.30 a.m. with a relay of the Auckland Racing Club's meeting at Ellerslie. From 8 till 9 o'clock there will be a bright and vivacious studio concert to which the Hebrew two, the Snappy Three, the Bohemian Trio and Mr. T. Harris (humorist) will contribute. Dance music will follow till 11 o'clock.

The operatic excerpt to be produced by Madame Irene Ainsley on Tuesday evening will be from "Il Trovatore" ("The Troubadour"). In this composition by Verdi there are some songs which will always be famous. Among these may be mentioned the "Anvil Chorus" and the duet "Home to Our Mountains."

The vocalists for Tuesday evening's concert will be Madame Irene Ainsley's Operatic Party. Miss Marjorie Faire will sing the great operatic aria from "La Bohème," "They Call Me Mimi," while Madame Ainsley herself will perform the aria "Voco Di Donna" from "La Gioconda." Mr. John Hogan, baritone, will make his second appearance before the microphone and will sing "The Fishermen of England," by Montague Phillips. Mr. Robert Peter, tenor, will include among other solos "The Laird of Cockpen."

The first movement from the Trio in B Flat Major (Schubert) and "Sylvia Ballet" by Delibes, will be played by the Auckland Trio, and Miss Ina Bosworth will perform the violin solo, "Liebesfreud," by Kreisler.

"The Pakeha and the Maori" is the title of Mr. A. B. Chappell's lecture, in continuing his talks on "Old New Zealand."



—Steffano Webb, photo.

MR. P. ANGUS.

A member of the Male Voice Choir Quartet to appear at 3YA on Monday.

The municipal organ recital will be broadcast from the Auckland Town Hall on Wednesday evening. Mr. Maughan Barnett will be the organist, and a popular and classical programme of organ selections will be presented. Following the organ recital the Hazell-Sutherland Duo and Miss Lynda Murphy will be heard from the studio. Contralto solos to be sung by Miss Phyllis Hazell will be "For Your Dear Sake" and "On Wings of Song." Miss Lynda Murphy will render two humorous sketches, "We Ain't Half Proud of Dad" and "My Day Off." Mr. Frank Sutherland's items are "The Devout Lover" and "If I

Schumann Evening at 1YA

BROADCAST ON FRIDAY NEXT

Lovers of the works of Schumann—and who is not?—will revel in the programme which is to be given next Friday evening by the Madame Mary Towsey Quartet. Practically the whole programme will be compositions by the famous German composer. Robert Alexander Schumann, the son of a bookseller, was born at Schnabel on June 8, 1810. The son of a man of wealth and position, his mind and tastes were cultivated from early youth with the utmost care. He was inducted into the mysteries of authorship at the age of 14, helping his father write a biographical work. Later, as editor of the "Zeitschrift für Musik," he exercised a powerful influence over contemporary thought in art matters, and established himself both as a keen and incisive thinker, and as a master of literary style. Schumann was at first intended for the Law, but his unconquerable taste for music asserted itself in spite of family opposition. His acquaintance with the celebrated teacher Wieck, whose gifted daughter, Clara, afterwards became his wife, finally established his career, for it was through Wieck's advice that the Schumann family yielded their opposition to the young man's bent. Once settled in his new career, Schumann gave himself up to work with the most indefatigable ardour.

In his zeal to attain an independent action for each finger, on the piano, he invented some machinery the result of which was to weaken the sinews of the third finger by undue distension. By this he lost the effective use of his right hand, and his career as a virtuoso practically closed. So it happened that Schumann devoted himself to composition and artistic criticism. The duration of Schumann's song writing was short, most of his Lieder having been written in 1840. After that he gave himself up to oratorio, symphony and chamber music.

Schumann's later days were sorrowful, for he was afflicted with a great mental distress, caused, we are told, by ossification of the brain. He was haunted by delusions, among others the hearing of a single musical note. He suffered from attacks of acute melancholy, and once threw himself into the Rhine, but was, fortunately, rescued. At length he was confined in a private asylum, where he was visited by his many friends when his condition permitted. He passed to his rest on July 29, 1856, in the presence of his wife, through whose exertions, in great part, the public of England had become acquainted with his pianoforte works.

Were," by Richards, and, in conjunction with Miss Hazell, will render the duets "The Garden of Your Heart" and "A Creole Swing Song."

Another varied and entertaining programme has been arranged for Thursday evening, the main vocalists being Mr. H. Barry Conroy's Quartet. The quartets include "Take Care, Take Care," and a humorous number entitled "Sing a Song of Sixpence." Well known and popular solos will be sung by the members of the quartet. Walter Smith's Radio Statues will be heard in several novelty items. The Auckland Trio will play the Presto Movement from "Trio in C Minor," by Bruch, and selections from "Tannhäuser," by Wagner. Mr. Thomas Harris will render the elocutionary item "How We Saved the Barge." Those inimitable humorists, the "Hebrew Two," will again be heard on the air and will again entertain with their witty stories and patter. Mr. Cyril Towsey will play Schubert's "Impromptu in B Flat," and the announcer, Mr. Cufford Bell, will continue his talk on "Great Authors." Last, but not least, will be the popular harmonisers, "The Snappy Three," whose numbers include "What Are You Waiting For, Mary?" "The Blue Room" and "Kiss and Make Up."

A Schumann evening has been arranged for Friday, when a programme of the works of the great German composer will be presented by the Madame Mary Towsey Quartet in conjunction with the Auckland Trio. Miss Gwenyth Evans's contralto solos include "The Lotus Flower" and "Thou Art Like a Lovely Flower," while Madame Mary Towsey will sing "Moonlight," "The Rose and the Lily," and "Dedication." "The Two Grenadiers" and "I Will Not Grieve" will be sung by Mr. John Bree, and "Twins in the Lovely Month" and "In the Garden" will be the mezzo-soprano solos to be performed by Miss Molly Atkinson.

Interspersing the Schumann items, the well-known elocutionist, Mr. J. F. Montague, will entertain with a humorous sketch, "Corrigans Rides the Winner," and a group of short poems. A

cornet duo, Messrs. Davies and Salt-house, will make a welcome reappearance before the microphone, and will play "Birds of the Forest" and "You and I." The popular Internationals, catering for lighter tastes, will play several concerted items, including "Mandy," "Dainty Miss," "Where, O Where Do I Live," and "Sunrise." The Lyric Quartet, assisted by the Bohemian Trio, will again be heard on Saturday evening. "A Russian Lullaby," "Dinah," and "Evening's Twilight" will be among their quartet items, while the various members of the quartet will render solos. Mr. Alan McElwain will again provide the humour for the evening, and the Bohemian Trio will play, among other items, "Blue Skies," "When You are Lonely," and "I Wonder How I Look when I'm Asleep." Dance music will again conclude the programme, the selections being relayed from the Dixieland Cabaret, where the Internationals are under Mr. Clyde Howley.

Sunday evening's church service will be from the St. Andrew's Church, the Rev. Lamb Harvey being the preacher, and the organist Dr. Neil McDougall. Following the church service, the Auckland Municipal Band recital will be broadcast from the Auckland Town Hall, the band being under the baton of Mr. Christopher Smith.

2YA ATTRACTIONS

Further bright programmes have been arranged for the 2YA orchestra next week. The usual request numbers will also be played.

Following up their "Modern English Evening" of last Monday, the Ariel Singers will be heard from 2YA on Monday, this time in a fun-filled miscellaneous programme, composed mainly of solo items. Full titles are published in the "Radio Record" among the week's programmes. A further recital (Irish songs) will be given by the same vocalists on Monday, June 11. The Ariel Singers state that they are only too pleased at all times to receive criticisms or suggestions as to their work. (Address, Care of the Radio Broadcasting Company, 124 Featherston Street.)

Other contributors to an entertaining programme on Monday evening will be Mr. Stanley Warwick elocutionist, and Mrs. T. Tracey, a contralto vocalist, who has won distinction at the competitions, and who on this occasion will be making her first appearance "on the air."

Another night of extracts from Sir Edward German's comic opera, "The Princess of Kensington," will be given by the Orpheus Quartet on Tuesday. Miss Lily Mackie will sing, "Oh, What is Woman's Duty" and "A Mountain Stood." Mrs. Alice Harris and Mr. Len Barnes will repeat the duet, "Seven O'Clock in the Morning," and will also sing a humorous number, "O, If I Were a Barnyard Fowl." Mrs. Harris's number is "Twin Butterflies," and Mr. Len Barnes will sing "A Sailor's Duty." Mr. Len Barnes will sing "My Heart, a Ship," will be sung by Mr. Arthur Coe, while the quartet will sing some of the most beautiful quartets in the opera. During the evening Mr. H. Temple White will give one of his pleasing organ recitals (which will be broadcast on relay from Taranaki Street Methodist Church). Miss Esme Crow will also entertain with elocutionary items.

Particular interest will attach to Tuesday evening's programme by reason of the fact that at 9 p.m. (approximately), Archbishop O'Shea will deliver a short address, relative to the League of Nations.

The Clarion Male Quartet will render an interesting programme on Thursday. The quartets will include the beautiful "Spin, Spin," and the old favourite, "Genevieve." A foxtrot "When I Met Sally," has been arranged by Mr. Len Barnes, and this will also be given. Mr. Ray Kemp will sing two old negro songs, "De Ole Ark's a Movering" (a spiritual), and a convict song, "Waterboy," and, with Mr. James Cooke, the "Gendarmes," a duet by Offenbach. Mr. Frank Skinner will sing the famous aria, "Vesta La Giubba" (from "I Pagliacci"), and also "Lolita," by Buzzi-Peccia. "Macushla" will be given by Mr. Will Hancock, and "The Wheel-tapper's Song" by Mr. James Cooke.

Associated with the Clarion Quartet on Thursday evening will be Mrs. Thomas, elocutionist, and Miss Zita Casey, soprano.

The instrumental music on Thursday evening will be provided by the Central Mission Band.

The Philharmonic Quartet, consisting of Mrs. Ellison Porter, Miss Madge Freeman, Mr. Edwin Dennis, and Mr. Clarence Bryden, in a series of popular songs, the Symons-Tillwood-Short Trio, in "Romance," the "Two Boiled Owls" in some of their characteristic humour, Mrs. Mildred Kenny's Guitar Trio and the Studio Orchestra will contribute the programme on Friday evening.

A talk on "The Value of Adult Education" will be given on Saturday evening at 7.40 by Professor Hunter, director of the Workers' Educational Association.

"Drinking" and "She is Far from the Land," are two request items, which the Melodie Four have included in their programme for Saturday evening. The Glad Tickers in their hits and harmonies, Mr. Geo. Titchener's humour, Mr. Lad Haywood, and his

English mandola, Mr. R. Stratmore's concertina, and the Studio Orchestra will supply the programme on Saturday evening.

After an absence from the air for about six months the Philharmonic Quartet will be very welcome to many listeners-in. With one alteration in the personnel, the members are now, Mrs. Ellison Porter (soprano), Miss Madge Freeman (alto), Mr. Edwin Dennis (tenor), Mr. C. Bryden (bass). The quartets will be "Drink to me Only" and the delightfully humorous "Old Mother Hubbard." Mrs. Porter will delight her hearers with "A Heart That's Free," of Robyn, and with Mr. Dennis the "Miserere" Duet. Miss Freeman will similarly treat "The Fishermen of England" by Phillips, "Bombardier Jim," that dashing, bright song, will be given by Mr. Bryden, who will also be associated with Mr. Dennis in the duet "Calm Silent Night." Mr. Dennis, who was recently soloist for the Royal Wellington Choral Union "Elijah," will sing "A Warwickshire Woeing," by James.

Cambridge Terrace Congregational Church and St. Thomas' Anglican Church will be on the air on Sunday, morning and evening respectively.

3YA FEATURES

"A Toast to the King" will be one of Mr. W. H. Moses's recitations on Monday evening, the King's Birthday, for which a special programme has been arranged. On this occasion a quartet from the Christchurch Male Voice Choir will make its first appearance. These vocalists, along with Miss Joyce Seth-Smith (mezzo-soprano) will intersperse selections by the band of the First Canterbury Regiment, whose items will be in keeping with the occasion.



Steffano Webb, Photo.

MISS WINIFRED SMITH, L.T.C.I.

A very clever elocutionist, who appears regularly at 3YA. She was a pupil of Miss Hercus and Miss Lucy Cowan.

The members of the quartet will be Mr. H. Blakeley, Mr. L. Quane, Mr. P. Angus, and Mr. James Kiler. Their concerted items will be four old favourites—"Come Where My Love Lies Dreaming," "Where are You Going To, My Pretty Maid?" "Coming Thro' the Rye," and "Love's Old Sweet Song." The solo items to be sung by the members of the quartet are all well known and popular, such as "Drake Goes West," "The Old Brigade," "The Crown of the Year," "King of the Vasty

(Continued on Page 14.)

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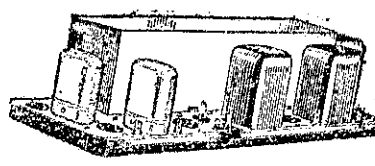
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NOTES AND COMMENTS

(By "Switch.")

THE following telegram was recently published in the United States daily papers:—Moulton, Ia., March 28. —(By International News Service).—Because they don't believe there is such a medium as ether, or that radio and electric waves travel through it, John N. Garrett, local postmaster, today declared he and an unnamed man are willing to pay \$10,000 (£2000) for conclusive proof of the existence of ether.

THE inventors of the Browning-Drake circuit have found that when the phasatrol system of neutralisation is used with 201A valves increased sensitivity, selectivity and volume are obtained by connecting the B plus end of the primary coil to the earth.

THE system of connecting a number of broadcast stations by land-lines so that they broadcast the same programmes is not regarded with complete favour in America, a Chicago listener writes to a Chicago daily:—"Noticed some of the fans have something to say about this chain stuff. I for one am strongly against it. No matter where your dials are, it is nothing but your station will now identify itself. What good is a set over three tubes to-day? Who is going to buy five or more tube sets just to get DX from 11 p.m. on? It is certainly spoiling the radio sales, especially us that 'roll our own.' I always favour stations that are not linked up. They have a more varied programme, and seems to me you feel more at home, and will buy their article more readily than outside stations. Charity begins at home."



—Steffano Webb, photo.

THE REV. CLYDE CARR,

Announcer at 3YA The Rev. Clyde Carr is also well known to the children as Uncle Sam. During Mr. Carr's absence on holiday leave, Uncle David will conduct the children's service on Sundays.

THE honour system at the Arkansas (U.S.A.) State penitentiary is to be retained because of assistance given penitentiary inmates recently by KOA in Denver, Colo. Prisoners in the penitentiary are placed on their honour and given exceptional liberties, with the provision that if one man escapes and is not recaptured, the honour system will be abolished. A man recently escaped. The remaining inmates resented his breach of trust, asked KOA to broadcast his description, and offered a \$50 reward for his capture. A KOA listener in McLeod, N.D., heard the description broadcast, met the man on the street, captured him and turned him over to authorities. Warden Todhunter notified KOA that because of the capture the honour system is to be retained.

THE Pennsylvania railroad has requested the Westinghouse Electric and Manufacturing Company to equip a freight locomotive and caboose with radio to test the value of wireless communication between engineer and brakeman on long trains.

THE General Electric Company of America have been carrying out systematic experiments to discover just how reliable short waves are. It seems to be fairly well established that 10 metres (about 30,000 k.c.) is about the shortest useful wavelength for most ordinary purposes. Below about 20 metres the waves travel better in daylight, whilst above that wavelength night time seems to be the best. Below about 45 metres, curious "skip distances" occur, producing regions beyond which signals may be heard, but within which they are inaudible. The General Electric experiments have shown that the 32.79 metre wave is of little use for short distances, but a power output of 500 watts on 65.16 metres (4500 k.c.) will transmit commercial day-time signals up to 100 miles.

IN the last nine months of 1927 the broadcasting revenue collected by the Post Office of Great Britain exceeded expenses by over £65,000.

Sunday, June 3

1YA AUCKLAND (333 METRES)—SUNDAY, JUNE 3.

- 3 p.m.: Afternoon session—Selected studio items.
4.0: Literary selection by the Announcer.
4.30: Further studio items.
4.30: Close down.
6.0: Children's song service, conducted by Uncle Leo, assisted by cousins from Beresford Street Sunday School.
6.55: Relay of evening service from St. Mary's Cathedral. Preacher, Canon Percival James. Organist, Mr. Edgar Randall.
8.30: Relay of organ selections from Town Hall. Organist, Mr. Manahan Barnett.
9.30: Close down.

2YA WELLINGTON (420 METRES)—SUNDAY, JUNE 3.

- 3 p.m. to 4.30 p.m.: Afternoon session.
6.0: Children's song service, conducted by Uncle Ernest.
6.55: Relay of evening service from Vivian Street Baptist Church. Preacher, Rev. F. E. Harry. Choirmaster, Mr. J. R. Samson. Organist, Mr. Chas. Collins.
8.15 (approx.): Relay of band recital of the Wellington Municipal Tramways Band from His Majesty's Theatre. Conductor, Mr. T. Goodall.
9.30: Close down.

3YA CHRISTCHURCH (306 METRES)—SUNDAY, JUNE 3.

- 5.30: Children's song service, conducted by Uncle Sam, assisted by scholars from the Sydenham Baptist Sunday School.
6.30: Relay of evening service from the Sydenham Baptist Church. Preacher, Rev. J. K. Archer. Choir conductor, Mr. W. Bradshaw. Organist, Mrs. W. F. Standen.
8.0: Following the church service, there will be a programme of musical items from the studio.
8.15 (approx.): Rebroadcast of 2YA, Wellington (concert of Municipal Tramways Band from His Majesty's Theatre, Wellington).
9.30: Close down.

4YA DUNEDIN (463 METRES)—SUNDAY, JUNE 3.

- 5.30 p.m.: Children's song service, conducted by Big Brother Bill, assisted by the Sunday School scholars of Dundas Street Methodist Church.
6.15: Relay of service from St. Paul's (Anglican) Cathedral. Preacher, Rev. Canon Nevill. Organist, Mr. E. Heywood, F.R.C.O.
8.0: Studio concert.
9.15: Close down.

Monday, June 4

1YA, AUCKLAND (333 METRES), MONDAY, JUNE 4.

- 11 a.m.: Relay description of Auckland Racing Club's (second day) Great Northern meeting at Ellerslie (by courtesy of the Club).
5.30: Close down.
8.0: Chimes.
8.1: Relay of orchestral overture from Prince Edward Theatre Orchestra, under the conductorship of Mr. E. Beachem.
8.11: Vocal trios—The Snappy Three, (a) "Blue Room" (Rogers); (b) "Just Imagine It" (Yellen).
8.17: Saxophone record—(a) "Erie" (Wiedoeft); (b) "Llewellyn" (Wiedoeft).
8.25: Humour—The Hebrew Two, "Dismal Ike and Happy Abe."
8.35: Vocal and instrumental—Bohemian Trio, popular selections.
8.43: Organ solos (record), played by Jesse Crawford, (a) "Sleepy Time Gal" (Mandel); (b) "You Forgot to Remember" (Brooks).
8.51: Vocal trios—The Snappy Three, (a) "Solo"; (b) "Marry, What Are You Waiting For" (Donaldson); (c) "You Gonna Get a Girl" (Archer).
9.0: Weather forecast.
9.1: Humour—Mr. T. Harris, a little mirth.
9.5: Relay of orchestral entracte from Prince Edward Theatre.
9.10: Vocal and instrumental—Bohemian Trio, popular items.
9.16: Relay of dance music by The Internationals, under Mr. Clyde Howley, from Dixieland Cabaret.
11.0: God Save the King.

2YA, WELLINGTON (420 METRES), MONDAY, JUNE 4.

- 3 p.m.: Chimes of the General Post Office clock, Wellington.
3.1: Selected gramophone items.
4.30 and 4.55: Sporting results to hand.
5.0: Close down.
6.0: Children's session—Auntie Gwen and Uncle Jeff, with Mrs. Thomas's party. Puzzles, stories, songs, and greetings.
7.0: News sessions, market reports, and sports results.
7.40: Lecturette—Mr. H. E. South, "Books—Grave and Gay."
8.0: Chimes of the General Post Office clock, Wellington.
8.1: Overture—The Orchestra, (a) "London Scottish" (Hague); (b) "Patience Valse" (Waldteufel).

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- 8.12: Contralto solos—Mrs. T. Treacey, (a) "Elegie" with cello obbligato (Massenet); (b) "Music, When Soft Voices Die" (Besley).
8.17: Elocution—Mr. A. Stanley Warwick, "The Grey Parrot" (Jacobs).
8.22: Trio—Symons-Edwood-Short Trio, "Trio in B Flat" (Beethoven).
8.34: Soprano solo—Miss Jeanette Briggs, "Lullaby" (Keel).
8.38: Duet—Messrs. Roy Hill and J. M. Caldwell, "Sigh No More, Ladies" (arr. Haydon).
8.42: Instrumental—The Orchestra, "Dance of the Hours" (Ponchielli).
8.51: Mezzo-contralto solo—Miss Ngaire Coster, "Thank God for a Garden" (Del Riego).
8.54: Tenor solo—Mr. Roy Hill, "Dolly the Milkmaid" (Taylor).
8.58: Piano—Miss Vera Macdonald, "Nocturne in E" (Chopin).
9.2: Quartet—Ariel Singers, (a) "The Minster Bell" (Leslie); (b) "Britons Strike Home" (Purcell).
9.9: Weather report and announcement.
9.8: Instrumental—The Orchestra, (a) "Legende" (Wieniawski); (b) "Aubade Printiniere" (Lacombe).
9.21: Soprano solo—Miss Jeanette Briggs, "Damon" (Strange).
9.25: Bass solo—Mr. J. M. Caldwell, "The Peat Fire Flame" (arr. Kennedy-Fraser).
9.29: Elocution—Mr. A. Stanley Warwick, (a) "The Law of the Sea" (Call); (b) "The Little Waves of Breffney" (Gore-Booth).
9.34: Contralto solo—Mrs. T. Treacey, "Speak, Oh, Speak" (Travels).
9.38: Instrumental—The Orchestra, "Chopiniana" (Part II), (Travels).
9.46: Duet—Misses Jeanette Briggs and Ngaire Coster, "In the Dusk of the Twilight" (adapted from Offenbach).
9.50: Tenor solo—Mr. Roy Hill, "Afton Water" (Old Scotch).
9.51: Instrumental—The Orchestra, request numbers.
10.0: God Save the King.

3YA, CHRISTCHURCH (306 METRES), MONDAY, JUNE 4.

- 3 p.m.: Afternoon session—Selected studio items.
4.35: Sports results.
6.0: Children's session, conducted by Uncle Jack, assisted by Aunt Pat and Aunt Rhoda. Bedtime stories, songs, and birthday greetings.
7.15: News session.
8.0: Chimes and overture.
Programme by Band of 1st Canterbury Regiment (Infantry) and assisting artists.
8.5: Male quartet—Christchurch Male Quartet, "Come, Where My Love Lies Dreaming" (Dicks).
8.9: Descriptive march—Band, "King's Boyrdsquad" (Hume).
8.13: Bass solo—Mr. James Filer, "Drake Goes West" (Sanderson).
8.17: Mezzo-soprano solos—Miss Joyce Seth-Smith, (a) "Blackbird's Song" (Scott); (b) "The Faery Pipers" (Brewer).
8.23: Selection—Band, "Soups of the Sea" (Rimmer).
8.33: Tenor solo and chorus—Mr. H. Blakeley and Christchurch Male Quartet, "The Old Brigade" (Barri).
8.37: Recital—Mr. W. H. Moses, "A Toast to the King" (MS.).
8.42: March—Band, "Exile" (Weaver).
8.45: Baritone solo—Mr. P. Angus, "The Crown of the Year" (Martin).
8.49: Selection—Band, "Comrades in Arms" (Adams).
8.57: Male quartet—Christchurch Male Quartet, "Where Are You Going to, My Pretty Maid" (Neidlinger).
9.0: Weather forecast.
9.1: Talk on "Aviation" by Captain J. L. Findlay, M.C.
9.16: Overture.
9.21: Bass solo—Mr. James Filer, "King of the Vasty Deep" (Withers).
9.26: March—Band, "Pleaser" (Souza).
9.29: Mezzo-soprano solos—Miss Joyce Seth-Smith, (a) "The Nightingale" (Brahms); (b) "The Forge" (Lengnick).
9.34: Male quartet—Christchurch Male Quartet, "Coming Through the Rye" (Scottish).
9.38: Overture—Band, "Ellin Revels" (Rowlands).
9.46: Recital—Mr. W. H. Moses, "Bishop Crammer's Speech at the Christening of Queen Elizabeth" (Shakespeare).
9.52: Baritone solo—Mr. P. Angus, "Come to the Fair" (Martin).
9.55: Fantasia—Band, "Scenes of Beauty" (The Duet).
10.5: Tenor solo—Mr. L. Quane, "Oh, Hail, Thou Dwelling Poor and Lowly" (Gonod).
10.8: Male quartet—Christchurch Male Quartet, "Love's Old Sweet Song" (Molloy).
10.11: March—Band, "Triumphant" (Partington).
10.15: Tenor solo and chorus—Mr. H. Blakeley and Christchurch Male Quartet, "Home, Boys, Home" (Jude).
God Save the King.

4YA, DUNEDIN (463 METRES), MONDAY, JUNE 4.

SILENT DAY.

Tuesday, June 5

1YA, AUCKLAND (333 METRES), TUESDAY, JUNE 5.

- 3 p.m.: Afternoon session—Selected studio items.
3.30: Talk on "Electric Cooking" by a representative of Messrs. Turnbull and Jones, Ltd.
3.45: 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. Pianoforte solo, Cousin Dolly, "Dancing Doll" (Poldini). Song, Uncle George, Talk, Sir Edward Sharpe. Bedtime stories. Talk, Dr. W. C. Poole. Letters and birthdays.
7.15: News and market reports.
8.0: Chimes.
8.1: Relay of orchestral overture from Majestic Theatre's New Orchestra, under the conductorship of Mr. J. Whitford-Waugh.
8.11: Baritone solo—Mr. John Hogan, "The Fishermen of England" (Phillips).
8.16: Instrumental trio—Auckland Trio, "Trio in B Flat Major, First Movement" (Schubert).
8.26: Contralto solo—Madame Irene Ainsley, "Voco Di Donna" ("La Gioconda") (Ponchielli).
8.31: Relay of orchestral entracte from Majestic Theatre.
8.39: Lecturette—Mr. A. B. Chappell, M.A., "Old New Zealand—The Pakeha and Maori."
8.51: Relay of vocal interlude from Majestic Theatre.
9.0: Weather forecast.
9.4: Flute and clarinet duo—Messrs. Murchie and Draper, "O Dolce Contento" ("Magic Flute"), (Mozart).
9.5: Excerpts from "Il Trovatore," produced under the direction of Madame Irene Ainsley.
The situation, when the opera opens, is explained by the soldier, Ferrando, who tells the story of Azucena's mother being burnt alive as a witch by di Luna's father.

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Week - All Stations - to June 10

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after having cast a spell on his children. With her dying breath, she begged her daughter Azucena to revenge her.

(Cast:

Leonora Miss Marjorie Faire
Azucena Madame Irene Ainsley
Mamrico Mr. Robert Peter
Count di Luna Mr. John Hogan
Trio (Leonora, Mamrico, and Count di Luna), "How Still the Night Is."
Chorus—"Anvil Chorus."
Contralto solo—Azucena, "Fierce Flames Are Raging."
Duet—Azucena and Mamrico, "In Gallant Fetters."
Baritone solo—Count di Luna, "Ah, Could I Behold Those Glances."
Duet—Azucena and Mamrico, "Miserere Duet," "Home to Our Mountains."

9.40: Violin solo—Miss Ina Bosworth, "Liebesfreud" (Kreisler).
9.44: Tenor solo—Mr. R. Peter, "The Laird of Cockpen" (Nairne).
9.48: Instrumental trio—Auckland Trio, "Sylvia Ballet" (Delibes).
9.56: Soprano solo—Miss M. Faire, "They Call Me Mimi" ("La Boheme"), (Puccini).
10.0: God Save the King.

2YA, WELLINGTON (420 METRES), TUESDAY, JUNE 5.

2 p.m.: Chimes of the General Post Office clock, Wellington.
3.1: Selected gramophone items.
4.30 and 4.55: Sporting results to hand.
5.0: Close down.
6.0: Children's session—The Radio Express. Conductor Stewart and Big Brother Jack.
7.0: News sessions, market reports, and sports results.
7.40: Lecturette—Representative, Agricultural Department, "For the Man on the Land."
8.0: Chimes of the General Post Office clock, Wellington.

All Vocal Numbers Sung by the Orpheus Quartet will be from the Comic Opera, "A Princess of Kensington," by Sir Edward German.

8.1: Overture—The Orchestra, "Rosamunde" (Schubert).
8.10: Quartet—The Orpheus Quartet, "Who that Knows" (German).
8.14: Contralto solo—Miss Lily Mackie, "Oh, What is Woman's Duty?" (German).
8.19: Duet—Mrs. Alice Harris and Mr. Len. Barnes, "Seven o'clock in the Morning."
8.23: Tenor solo—Mr. Arthur Coe, "My Heart a Ship."
8.28: Instrumental—The Orchestra, grand opera selection, "Martha" (Flotow).
8.33: Quartet—The Orpheus Quartet, "Heave, Ho."
8.38: Elocution—Miss Esme Crow, "My Dilemma" (Anon.).
8.44: Relay of organ solos by Mr. H. Temple White, (a) "Traumerel" (Schumann); (b) "Evensong" (Easthope Martin); (c) "Marche Triomphale" (Lemmens).
8.50: Weather report and announcements.
8.58: Lecturette—His Grace Archbishop O'Shea, "League of Nations."
9.13: Instrumental—The Orchestra, "Schumann's Songs" (arr. (Prinl.).
9.21: Soprano solo—Mrs. Alice Harris, "Twin Butterflies."
9.25: Baritone solo—Mr. Len. Barnes, "A Sailor Man's the Sort of Man."
9.30: Instrumental—The Orchestra, "Maid of the East" (Morgan).
9.40: Contralto solo—Miss Lily Mackie, "A Mountain Stood."
9.44: Duet—Mrs. Alice Harris and Mr. Len. Barnes, "Oh, if I Were a Barn-door Fowl."
9.49: Humour—Miss Esme Crow, (a) "That Troublesome Wink" (Grant); (b) "Rosie's Relations" (Goddard).
9.54: Quartet—The Orpheus, "See a Rainbow Arch."
9.59: Instrumental—The Orchestra, request numbers.
10.4: God Save the King.

3YA, CHRISTCHURCH (306 METRES), TUESDAY, JUNE 5.

SILENT DAY.

4YA, DUNEDIN (163 METRES), TUESDAY, JUNE 5.

3 p.m.: Town Hall chimes.
3.1: Gramophone recital.
4.0: Address on "Domestic Uses of Electricity," by Mr. G. J. Butler, of Messrs. Turnbull and Jones, Ltd.
4.15: Studio music.
4.25: Sporting results.
4.30: Close down.
6.0: Town Hall chimes.
6.1: Children's session. Big Brother Bill, assisted by the Archerfield Girls' Choir. Greetings and riddles. Story-time for the chick-abiddies. Recitation, S. Wren, "Elizabeth Ann" (Milne). Piano solo, E. Trotter, "Night in May" (Palmgren). Recitation, M. Copeland, "To a Patchwork Quilt" (Wilhemina Stitt). Madrigals and part-songs by the choir. Letters and birthday greetings. Opportunity will be made, possibly by the omission of greetings and riddles, for a talk on "Tails," by Big Brother Bill. This will be a Nature talk.

7.15: News session.
7.30: Address on "Popular Tourist Resorts," by Mr. R. W. Marshall, of the Government Tourist Department.
8.0: Town Hall chimes.
8.1: Pianoforte solo—Miss Marjorie Watts, "Ballade in G Minor" (Brahms).
8.6: Mezzo-soprano solos—Mrs. J. Marshall, (a) "Who'll Buy My Laverdier?" (German); (b) "Smilin' Through" (Penn).
8.12: Recitals—Mr. Lester Moller, (a) "The Three Trees" (Cowell); (b) "Pemaury" (Doyle).
8.20: Bass solo—Mr. E. C. Cooper, "Galloping Dick" (Fletcher).
8.23: Xylophone solos—Mr. Andrew Fraser, (a) "Reonsz Band March" (Sweetley); (b) "Tinkle the Ivories" (Hertzer).
8.30: Soprano solos—Mrs. D. Carly, (a) "Absent" (Glen); (b) "Land o' the Leat" (Nairne).
8.37: Monologue—Miss Anita Winkel, "The Coward."
8.41: Baritone solos—Mr. Bert Rawlinson (negro spirituals), (a) "My Good Lord's Been Here" (Marsh); (b) "O, Wasn't That a Wide River?" (Marsh).
8.48: Piano accordion solo—Mr. E. Heaney, "Birth of the Blues" (Henderson).
8.53: Address—Pastor W. D. More.
9.0: Weather forecast.
9.12: Vocal duet—Mrs. D. Carly and Mr. Bert Rawlinson, "Ye Banks and Braes."
9.15: Pianoforte solos—Miss Marjorie Watts, (a) "Refrain de Berceau" (Palmgren); (b) "Chanson Triste" (Tschalkowsky).
9.22: Mezzo-soprano solo—Mrs. J. Marshall, "I Love Your Eyes of Grey" (Wood).
9.25: Humorous recital—Mr. Lester Moller, "The Hoodoo's Santa Claus" (Leacock).
9.30: Bass solos—Mr. E. C. Cooper, (a) "The Glory of the Sea" (Sanderson); (b) "The Ragged Vagabond" (Randolfe).
9.36: Xylophone solo—Mr. Andrew Fraser, "The Doll Dance" (Brown).
9.40: Soprano solo—Mrs. D. Carly, "Marguerite" (White).

9.43: Monologue and a child impersonation, Miss Anita Winkel, (a) "Kisses" (Anon.); (b) "Dirty Face" (Green).
9.49: Baritone solo—Mr. Bert Rawlinson (negro spiritual), "The Rocks and the Mountains" (Marsh).
9.53: Piano accordion solos—Mr. E. Heaney, (a) "Robin Adair" and Reels; (b) "The Perfect Day" (Bond).
10.0: God Save the King.

Wednesday, June 6

1YA, AUCKLAND (333 METRES)—WEDNESDAY, JUNE 6.

11 a.m.: Relay description of Auckland Racing Club's (third day) Great Northern Meeting at Ellerslie (by courtesy of the Club).
6.0: Children's session, conducted by Uncle Tom—Records; recitation, Gloria King, "Big Steamers" (Kipling); story for Tiny Tots; song, Uncle Tom, selected; letters and birthdays; pianoforte solo, Molly Spragg, "Sailor's Song" (Schumann); story-time; closing chorus.
7.15: News and reports.
7.45: Lecturette by Mr. Norman Kerr on "Physical Culture."
8.0: Chimes.
8.1: Relay of Municipal Organ Recital from the Town Hall. Organist, Mr. Maughan Barnett.
Interspersing the organ recital will be the following items from the studio by the Hazell-Sutherland Duo and Miss Lynda Murphy:—
Contralto solo—Miss Phyllis Hazell, (a) "For Your Dear Sake" (Trotter); (b) "On Wings of Song" (Mendelssohn).
Soubrette—Miss Lynda Murphy, (a) "We Ain't 'Arf Proud o' Dad"; (b) "My Day Off."
Baritone solos—Mr. Frank Sutherland, (a) "The Devout Lover" (White); (b) "If I Were" (Richards).
Vocal duets—Hazell-Sutherland Duo, (a) "The Garden of Your Heart" (Dorel); (b) "Creole Swing Song" (Denza).
10.0: God Save the King.

2YA, WELLINGTON (420 METRES), WEDNESDAY, JUNE 6.

SILENT DAY.

3YA, CHRISTCHURCH (306 METRES)—WEDNESDAY, JUNE 6.

3 p.m.: Afternoon session—Selected studio items.
4.25: Sports results.
4.30: Close down.
6.0: Children's hour—Uncle Peter and Mother Hubbard. Songs by Mother Hubbard; piano solos by Cousin Malcolm; playette by "Three Old Maids of Lee"; stories by Uncle Peter; birthday greetings and good-night song.
7.15: Addition stock market reports.
7.30: News session.
8.0: Chimes and overture.
8.5: Opening chorus, followed by bass solo—Radiolian Quartet and Mr. W. J. Richards, "We Will be Quick" (Caryll-Monckton), "My Yorkshire Lassie" (Caryll-Monckton).
Soprano and contralto duet—Mrs. Claris Shaw and Miss Mildred Russell, "Bridesmaids" (Caryll-Monckton).
8.14: Violin solo—Miss Irene Morris, "Preliera" (Martin-Kreisler).
8.19: Soprano solo, followed by tenor and bass duet—Mrs. Claris Shaw, and Messrs. Gregory Russell and W. J. Richards, "Hats" (Caryll-Monckton), "Correct" (Caryll-Monckton).
8.25: Tenor trombone solo—Mr. E. G. Williams, "Sweet Spirit Hear My Prayer" (Hock).
8.30: Mixed vocal quartet—Radiolian Quartet, "Saturday Afternoon" (Caryll-Monckton).
8.34: Euphonium solo—Mr. S. N. Crisp, "Here's to the King" (St. Quentin).
8.39: Cockney recital—Mr. George Ferris, "Spotty" (Hammequin).
8.43: Contralto solo—Miss Mildred Russell, "Mary" (Caryll-Monckton).
8.46: Instrumental trio—Christchurch Broadcasting Trio, "Miniature Trio" (Gurilt).
8.54: Tenor solo, followed by soprano and bass duet—Mr. Gregory Russell, and Mrs. Claris Shaw and Mr. W. J. Richards, "Hughie" (Caryll-Monckton), "Not That Sort of Person" (Caryll-Monckton).
8.59: Weather forecast.
9.0: Overture.
9.5: Mixed vocal quartets, followed by soprano solo—Radiolian Quartet and Mrs. Claris Shaw, "Palaces Oriental" (Caryll-Monckton); "In Yorkshire" (Caryll-Monckton).
9.11: Violin solo—Miss Irene Morris, "Minuet" (Mozart).
9.16: Contralto solo—Miss Mildred Russell, "Moonstruck" (Caryll-Monckton).
Tenor and bass duet, followed by soprano solo—Messrs. Gregory Russell and W. J. Richards, and Mrs. Claris Shaw, "English Gentleman" (Caryll-Monckton); "Arms and the Man" (Caryll-Monckton).
9.26: Tenor trombone solo—Mr. E. G. Williams, "Unrehearsed" from "Lortzing" (Hock).

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CHRISTCHURCH.

A DISTINCT innovation in wireless, and one which should be extremely useful to the Police Department, is the installation of a six-valve Radiola Super-Heterodyne Receiver on the New South Wales police patrol boat. The receiver is fitted into a cupboard of the launch, and used in conjunction with a concealed aerial. The installation was carried out by Amalgamated Wireless, and is capable of receiving messages from Police Headquarters in Phillip Street, Sydney. While the police patrol motor cars have been equipped with wireless for some considerable time, this is the first of the police patrol boats to be so fitted.



—Steffane Webb, photo.

MR. W. HAY,

A flautist, who frequently contributes to the programmes at 3YA.

THE Malabar short wave station, Dutch East Indies, is now broadcasting fairly regularly on Wednesdays, Fridays, and Saturdays, from 1 to 4 p.m. G.M.T., on a wavelength of 17.4 metres, with the call sign ANP.

THE Japanese baseball team, who are to visit Australia in June, will play a number of important matches in Sydney, which will be broadcast for the benefit of listeners by 2BL, who have exclusive rights.

COPENHAGEN (Denmark) reports that an iron-handled coal shovel hanging from a hook attached to a water-pipe at Kalmar Fire Station, Sweden, has taken to acting as a loud speaker; perfect enunciation and intonation.

"B" BATTERIES, and not "H" eliminators are recommended for shortwave sets. In the first place, a shortwave receiver is almost invariably of the regenerative type. It is designed on the low-loss principle (which, in shortwave reception, really means something) and consequently is extremely sensitive and must be capable of maintaining the most critical adjustments. If it is used in conjunction with an eliminator, the unsuppressed A.C. hum, which might pass entirely unnoticed in the ordinary broadcast receiver, becomes pronounced and grows in intensity as the reaction is tightened. Furthermore, an absolutely stable plate current supply is vital to success in shortwave reception.

TELEPHONE subscribers in any part of Great Britain can now call up and communicate with Canadian subscribers by means of the transatlantic telephone service, via Rugby.

THE station at Kostweik, in the Netherlands, transmits on an 18-metre wavelength on Monday, Wednesday and Friday afternoons. It is in communication with the station at Bandoeng, in Java, and sometimes receives native music and other matter from the Dutch East Indies.

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Programmes Continued

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- 9.31: Humorous recital (Melbourne East End vernacular)—Mr. Geo. Ferris, "The Play of Romeo and Juliet" (Dennis), (a Melbourne East-End's description of Shakespeare's play).
- 9.36: Instrumental trios—Christchurch Broadcasting Trio, (a) "Prelude in C Sharp Minor" (Rachmaninoff); (b) "Dance of the Doll" (Poldini).
- 9.46: Contralto and bass duet—Miss Mildred Russell and Mr. W. J. Richards, "Our Farm" (Caryl-Monckton).
- 9.50: Euphonium solo—Mr. S. N. Crisp, "Maritana" (Wallace).
- 9.53: Mixed vocal quartet—Radiolan Quartet, "City of White" (Caryl-Monckton).
- God Save the King.

4YA, DUNEDIN (463 METRES)—WEDNESDAY, JUNE 6.
SILENT DAY.

Thursday, June 7

1YA, AUCKLAND (333 METRES)—THURSDAY, JUNE 7.

- 3 p.m.: Afternoon session—Selected studio items.
- 3.30: Talk on "Progress in the Use of Gas," by a representative of the Auckland Gas Company.
- 4.15: Selected studio items.
- 4.45: Literary selection by the announcer.
- 4.55: Selected studio items.
- 4.25: Sports results.
- 4.30: Close down.
- 6.0: Children's session, conducted by Peter Pan—Musical sketch, Vena de Marr, "Rosa"; recitation, Edna de Marr, "Entertaining Sister's Beau"; song, Adele de Marr, selected; stories and birthdays; dialogue, Adele and Vena de Marr, "The First Tie"; song, Vena de Marr, "Freckles" (Pierce); bed-time stories.
- 7.15: News and market reports; book review.
- 8.0: Chimes.
- 8.1: Overture—"Leonora" Overture (Beethoven).
- 8.6: Vocal quartet—Mr. Barry Coney's Quartet, "Take Care, Take Care" (Bartholomew).
- 8.9: Contralto solo—Miss Martha Williamson, "Somebody Knocking at Your Door" (Burleigh).
- 8.12: Instrumental and vocal—Walter Smith's Radio Statics, (a) "Marche Militaire" (Schubert); (b) "It All Depends on You" (Henderson); (c) "Saxophone Waltz" (Mingo).
- 8.22: Tenor solo—Mr. G. Barnes, "Passing By" (Purcell).
- 8.26: Instrumental trio—Auckland Trio, "Trio in C Minor—Presto" (Max Bruch).
- 8.35: Soprano solo—Miss Dorothy Yound, "Because" (D'Hardelot).
- 8.39: Vocal trios—The Snappy Three, (a) "The Blue Room" (Rogers); (b) "Kiss and Make Up" (Bogatti).
- 8.45: Humour—The Hebrew Two, "Happy Abe and Dismal Ike."
- 8.55: Baritone solo—Mr. H. Barry Coney, "Sir Roger" (Collman).
- 8.59: Weather forecast.
- 9.0: Talk on "Great Authors" by Mr. Cufford Bell.
- 9.10: Orchestral selection from "Maid of the Mountains" (Tate).
- 9.17: Contralto solo—Miss Martha Williamson, "Sing Merrily" (Phillips).
- 9.21: Pianoforte solo—Mr. Cyril Towsey, "Impromptu in B Flat" (Schubert).
- 9.25: Tenor solo—Mr. G. Barnes, "La Donna e Mobile" (Verdi).
- 9.29: Vocal and instrumental, Walter Smith's Radio Statics, (a) "Mama's Good-bye" (Strang); (b) "My Gal Sal" (Hale); (c) "Maori Airs" (MS.).
- 9.38: Soprano solo—Miss Dorothy Yound, "Parting" (Bantock).
- 9.41: Instrumental trio—Auckland Trio, "Tannhauser" Selection (Wagner).
- 9.49: Baritone solo—Mr. B. Coney, "The Fortune Hunter" (Willeby).
- 9.53: Vocal trio—The Snappy Three, (a) "Some Day You'll Say O.K." (Donaldson); (b) jazz piano solo; (c) "What Are You Waiting For, Mary" (Donaldson).
- 10.0: Recital—Mr. T. Harris, "How We Saved the Barge."
- 10.4: Vocal quartet—Mr. H. Barry Coney's Quartet, "Sing a Song of Sixpence" (Cornwall).
- 10.8: God Save the King.

2YA, WELLINGTON (420 METRES), THURSDAY, JUNE 7.

- 3 p.m.: Chimes of the General Post Office clock, Wellington.
- 3.1: Selected gramophone items.
- 4.30 and 4.55: Sporting results to hand.
- 5.0: Close down.
- 6.0: Children's session—Auntie Dot and a merry party of cousins from Northland. Choruses, songs, and stories.
- 7.0: News sessions, market reports, and sports results.
- 7.40: Lecture—Miss Margaret O'Connor, "Doings and Dancing in Other Lands."
- 8.0: Chimes of the General Post Office clock, Wellington.
- Studio Concert by the Central Mission Band (Conductor, Mr. H. Baker), assisted by 2YA Artists.
- 8.1: March—Central Mission Band, "The Middy" (Alford).
- 8.7: Quartet—The Clarion Quartet, "Spin, Spin" (Jungst).
- 8.11: Brass quartet—Central Mission Band, "Wendouree" (Ord Hume).
- 8.18: Tenor solo—Mr. Will Hancock, "Macuska" (MacMurrrough).
- 8.22: Selection—Central Mission Band, "Songs of Sentiment" (Round).
- 8.32: Bass solo—Mr. James Cooke, "The Wheel-tapper's Song" (Charles).
- 8.36: Elocution—Mrs. M. Thomas, "Young Fellow Me Lad."
- 8.49: Reverie—Central Mission Band, "The Bells of Sunset" (Mackenzie).
- 8.47: Tenor solo—Mr. Frank Skinner, "On With the Motley" (Leoncavallo).
- 8.51: Soprano solos—Miss Zita Casey, (a) "A Heart that's Free" (Robyn); (b) "Sing, Break into Song" (Mallinson).
- 8.57: March—Central Mission Band, "The Bullfighters" (Ord Hume).
- 9.3: Weather report and announcements.
- 9.5: Baritone solos—Mr. Ray Kemp, (a) "De Ole Ark's a-moverin'" (Burleigh); (b) "Waterboy" (Burleigh).
- 9.9: Selection—Central Mission Band, "Knight Errant" (Lithgow).
- 9.21: Quartet—The Clarion Quartet, "Genevieve" (Tucker).
- 9.25: Waltz—Central Mission Band, "Reflections" (Bordogni).
- 9.32: Elocution—Mrs. M. Thomas, "The Soliloquy of a Safety-pin" (Slayer).
- 9.36: Duet—Messrs. Ray Kemp and James Cooke, "Gendarmes" (Offenbach).
- 9.49: Selection—Central Mission Band, "A Sunday Service" (Hawkes).
- 9.59: Quartet—The Clarion Quartet, "When I Met Sally" (Wade, arr. Len Barnes).
- 9.54: March—Central Mission Band, "Marine Artillery" (Rimmer).

THE Adelaide broadcast station, 5KA, which is not infrequently heard in New Zealand, has been taken over by 5CL, Adelaide, and will be operated in conjunction with the latter station.

ONLY a few years ago, radio transformers were made with ratios as high as 20 to 1. The better makes of transformers of to-day now have ratios of two or three to one, or even less. The idea in those days was volume, undistorted or not—now tone consistent with good volume is the order. In the same manner, six valve amplifiers used to be the range. Two valves are now considered ample.

LADY announcers have officiated at some of the Australian stations from time to time, but a lady announcer is now seldom heard in the Commonwealth. Amongst the European stations employing lady announcers are Milan, Moscow and Berne.

WHEN drilling holes in a radio panel which have to be in exact alignment, it is better to use a rose bit (or a "countersink") rather than a drill to start the hole, as the multiple cutting edge ensures that the point of the instrument does not wander from the punched position, as so often happens when a drill is used.

A SYDNEY vocalist advertises in the Sydney "Wireless Weekly":—"Have you a radio voice? Madame —, who has installed apparatus similar to that used in broadcasting studios, will tell you free of charge. Microphone instruction is a necessary factor to the good broadcasting artist, and a free air test will be given by Madame — at 169 Strand Arcade (fifth floor), phone M3790 (private phone FT2340). Broadcasting instruction at moderate fees, prospectus on application. Madame — is one of 2FC's principal sopranos, and many of her students have been placed with the broadcasting studios.



—Steffano Webb, photo.

MR. S. E. MUNDAY,

A popular clarinet player, frequently heard from 3YA.

MESSRS. FERRANTI, widely known as manufacturers of radio transformers, loudspeakers, etc., have received a £130,000 order for the Scottish Central power scheme. Total weight of the order is 1200 tons, and some of the larger transformers weighing 96 tons. They have also under construction a transformer designed for a working voltage of a million, for the National Physical Laboratory.

TO the average radio listener "resonance" means very little, but in view of the fact that all reception and broadcasting depends on it, one should become well acquainted with the use of this term. Resonance, in radio, is simply a condition existing in the number of electrical circuits, which allows the action of one to cause the greatest possible response in another. When circuits are in resonance they are said to be "tuned," and one will then have the maximum effect upon the other. When you turn the dials on your receiver you are simply bringing your set into resonance with the broadcast frequency; that is, you are tuning the circuits in the set to the same frequency to which the circuits at the broadcast station are tuned, and, therefore, bringing your set into a condition which will allow the maximum effect to be produced.

THE Johannesburg broadcast station, JB, which transmits on a wavelength of 395 metres, is sometimes heard in Melbourne between 3 a.m. and 6 a.m., which is equivalent to 4.30 a.m. and 7.30 a.m., New Zealand time. Some Australians have heard the Colombo station on 380 metres at 12.30 a.m. (2 a.m. New Zealand time).

WHEN using a B battery eliminator, the earth from the set should be connected through a fixed condenser to earth in order that the line fuses will not be blown. The condenser should have a capacity of about 1 mfd.

3YA, CHRISTCHURCH (306 METRES)—THURSDAY, JUNE 7.

- 3 p.m.: Afternoon session—Selected studio items.
- 4.25: Sports results.
- 4.30: Close down.
- 6.0: Children's session—Chuckie and Aunt Pat. Part songs, solos and choruses by Phillipstown school pupils; story by Chuckie; story by Aunt Pat for the Tiny Tots; birthday greetings and good-night songs.
- 7.15: News session.
- 7.30: Talk by Mr. Compton on "Popular Electricity."
- 8.0: Chimes and overture.
- 8.5: Vocal quartet and solo—Madame Gower-Burns's Grand Opera Quartet, "Titi Toreo" (Alfred Hill).
- 8.9: Pianoforte solo—Miss Aileen Warren, "To the Spring," Op. 40, No. 6 (Grieg).
- 8.13: Tenor solos—Mr. Harold Prescott, (a) "To the Moon" (Voige); (b) "Indian Serenade" (Voige); (c) "To Mary" (Voige).
- 8.20: Recitals—New Zealand authors, Miss Lucy Cowan, (a) "The Passing of the Forest" (W. Pember-Reeves); (b) "The Song of the Saws" (W. M. Lawson).
- 8.25: Soprano solos—Madame Gower-Burns, (a) "Flower Fetters" (Willeby); (b) "Archal by the Sea" (Rosada Lawrence).
- 8.31: Instrumental trios—Christchurch Broadcasting Trio, "Romance and Saltarello" (Bridge).
- 8.39: Baritone solo—Mr. Bernard Rennell, "Requiem" (Horne).
- 8.43: Trumpet solo—Mr. Percy Reeves, "The Nightingale" Polka (Moff).
- 8.48: Contralto solos—Mrs. Ann Harper, (a) "Summer Idyl" (Willeby); (b) "The Turn of the Year" (Willeby).
- 8.54: Clarinet solo—Mr. S. E. Munday, "Harlequinade" Polka (Morrell).
- 9.0: Weather forecast.
- 9.1: Overture.
- 9.6: Rustic dialogue, including tenor solo and quartet—Miss Lucy Cowan and Mr. J. F. Cannell, Mr. Harold Prescott and the Grand Opera Quartet, "Walking Home" (MS.); "Two Poi Songs" (Alfred Hill).
- 9.11: Pianoforte solo—Miss Aileen Warren, "Polonaise in B Flat Major, Op. 71, No. 2" (Chopin).
- 9.16: Soprano solos with violin, piano and organ obbligato accompaniment—Madame Gower-Burns, (a) "I Gave You a Gift" (Mai Burns-Loughnan); (b) "My Fairest Child."
- 9.22: Clarinet solo—Mr. S. E. Munday, "Weber's Last Waltz" (Le Thiere).
- 9.27: Tenor solos—Mr. Harold Prescott, (a) "Jenny's Way" (Willeby); (b) "The Sea Hath Its Pearls" (Clutsam).
- 9.23: Instrumental trios—Christchurch Broadcasting Trio, (a) "Minuet" (Beethoven); (b) "Spanish Dance" (Moszkowski).
- 9.41: Contralto solos—Mrs. Ann Harper, (a) "In a Beautiful Garden" (Gleeson); (b) "Ships That Pass in the Night" (Mai Burns-Loughnan).
- 9.47: Trumpet solo—Mr. Percy W. Reeves, "Good-bye" (Tosti).
- 9.51: Baritone solos—Mr. Bernard Rennell, (a) "Home, Little Maori, Home" (Hill); (b) "I Know of Two Bright Eyes" (Clutsam).
- 9.57: Vocal quartet with baritone solo—Mr. Bernard Rennell and Grand Opera Quartet, "Song of the Locust" (Hill).
- God Save the King.

4YA, DUNEDIN (463 METRES)—THURSDAY, JUNE 7.

- 7 p.m.: Town Hall Chimes.
- 7.1: Request gramophone concert.
- 7.40: News session.
- 8.0: Town Hall chimes.
- 8.1: Relay of orchestral music from the Octagon Theatre Orchestra, under the conductorship of Monsieur de Rose.
- 8.11: Light mezzo-soprano solo—Miss Betty Roberts, "Willie Was a Gay Boy" (Stuart).
- 8.15: Humorous recital—Mr. Carl Moller, "The Wife Who Sat Up" (Gros-smith).
- 8.20: Popular song numbers—Dunedin Banjo Trio, (a) "Sometime" (Flo-rito); (b) "High, High, High Up in the Hills" (Abrahams); (c) "Charmaine" (Pollock); (d) "My Blue Heaven" (Donaldson).
- 8.30: Light baritone solos—Mr. R. Wilson Brown, (a) "Every Little While"; (b) "Under the Blue Lagoon."
- 8.37: Humorous recitals—Miss Hilda Scurr, "Don't Tell My Mother" (Herbert).
- 8.41: Light soprano solo—Miss Dorothy West, "Mary," from the musical play of that name (Monckton).
- 8.44: Relay of orchestral music from the Octagon Theatre.
- 8.54: Light baritone solos—Mr. J. B. McConnell, (a) "Henry's Made a Lady Out of Lizzie" (O'Keefe); (b) "Moonlight and You" (Hanley).
- 9.0: Weather forecast.
- 9.3: Popular song numbers—Dunedin Banjo Band, (a) "Hustling Hinkler" (Baer); (b) "For a Term of His Natural Life" (Hayes); (c) "Me and My Shadow" (Dreyer).
- 9.13: Light soprano solos—Miss Betty Roberts, (a) "Love, Good-bye" (Le-har); (b) "Tact" (Stuart).
- 9.20: Humorous recitals—Mr. Carl Moller, (a) "At the Dentist's" (Lancock); (b) "You Know What I Mean" (Hayes).
- 9.30: Baritone solo—Mr. R. Wilson Brown, "Ka Mate, Ka Mate."
- 9.33: Relay of orchestral music from the Octagon Theatre.
- 9.41: Light soprano solos—Miss Dorothy West, (a) "Romance" (from "Our Miss Gibbs") (Monckton); (b) "Moonstruck" (from the same musical comedy).
- 9.47: Humorous recitals—Miss Hilda Scurr, (a) "The Funeral of Mrs. Odson" (Paine); (b) "Lady Nancy" (Maurice); (c) "If You Like"; (d) "The Rich Man" (four sketches).
- 9.53: Light baritone solo—Mr. J. B. McConnell, "Thinking" (Torgan).
- 10.0: Close down.

Friday, June 8

1YA, AUCKLAND (333 METRES), FRIDAY, JUNE 8.

- 3 p.m.: Afternoon session—Selected studio items.
- 4.0: Literary selection by the Announcer.
- 4.8: Selected items.
- 4.25: Sports results.
- 4.30: Close down.
- 6.0: Children's session, conducted by Nod, assisted by Mrs. Arthur Griffiths and pupils. Song, Cousin Dorothy, selected. Pantomime, Aunt Nellie and Rosebud Entertainers, "Beauty and the Beast." Stories and birthdays. Musical sketch, Cousin Madeline, "A Tale at the Piano." Song, Cousin Dorothy, "Curly-headed Baby." Story-time.

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Programmes Continued

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- 7.15: Talk on "Motoring" by Mr. George Campbell.
7.30: News and market reports.
8.0: Chimes. Schumann evening.
8.1: Orchestral overture—"Fingal's Cave" (Mendelssohn).
8.9: Vocal quartet—Madame Mary Towsey's Quartet, "O, Who Will O'er the Downs so Free?" (Pearsall).
8.13: 'Cello solo—Miss Molly Wright, "Slow Movement" from "Cello Concerto" (Schumann).
8.22: Contralto—Miss Gwenyth Evans, "The Lotus Flower" (Schumann).
8.26: Recital—Mr. J. P. Montague, group of short poems.
8.33: Vocal and instrumental—The Internationals, (a) "Mandy" (Hubert); (b) "Dainty Miss" (Barnes).
8.41: Baritone solo—Mr. John Bree, "The Two Grenadiers" (Schumann).
8.45: Cornet duo—Messrs. R. Davies and Salthouse, "Birds of the Forest" (Short).
8.50: Soprano solos—Madame Mary Towsey, (a) "Moonlight" (Schumann); (b) "The Rose and the Lily" (Schumann).
8.58: Weather forecast.
9.0: Orchestral selection from "Katja the Dancer" (Gilbert).
9.8: Contralto solo—Miss Gwenyth Evans, "Thou Art Like a Lovely Flower" (Schumann).
9.11: Instrumental trio—Auckland Trio, "Romance" (Schumann).
9.20: Baritone solo—Mr. J. Bree, "I Will Not Grieve" (Schumann).
9.24: Mezzo-soprano solos—Miss Mollie Atkinson, (a) "Twas in the Lovely Month of May" (Schumann); (b) "In the Garden" (Schumann).
9.31: 'Cello solo—Miss Molly Wright, "Humoresque and March" (Schumann).
9.36: Humorous sketch—Mr. J. P. Montague, "Corrigan Rides the Winner" (Schumann).
9.42: Soprano solo—Madame Mary Towsey, "Dedication" (Schumann).
9.46: Vocal and instrumental—The Internationals, (a) "Love Is Just a Little Bit of Heaven" (Barr); (b) "Where, Oh, Where Do I Live?" (Summers); (c) "The Sunrise" (Friend).
9.52: Cornet duo—Messrs. Davies and Salthouse, (a) "Yes and I" (Short); (b) "I Would That Love" (Mendelssohn).
9.56: Vocal quartet—Madame Mary Towsey Quartet, "The Long Day Closes" (Sullivan).
10.0: God Save the King.

2YA, WELLINGTON (420 METRES), FRIDAY, JUNE 8.

- 3 p.m.: Chimes of the General Post Office clock, Wellington.
3.1: Selected gramophone items.
4.30 and 4.55: Sporting results to hand.
5.0: Close down.
6.0: Children's session—Uncle Ernest and Thorndon Normal School (Model Country School Division).
7.0: News sessions, market reports, and sports results.
8.0: Chimes of the General Post Office clock, Wellington.
8.1: Overture—The Orchestra, "Italiana in Algeria" (Rossini).
8.9: Quartet—The Philharmonic Quartet, "Drink to Me Only" (Knight).
8.13: Duet—Mrs. Ellison Porter and Mr. Edwin Dennis, "Miserere" Scene, from "Il Trovatore" (Verdi).
8.17: Trio—Symons-Elwood-Short Trio, "Romance" (Marschner).
8.27: Light vocal—The Two Boiled Owls, (a) "Who-oo you-oo that's who" (Ager); (b) "Tomfoolery" (Guisele).
8.34: Steel guitar trios—Mrs. Mildred Kenney's Trio, (a) "Mellow Moon" (Hall); (b) "Cheer, Beerie, Be" (Wayne).
8.41: Baritone solo—Mr. Clarence Bryden, "Bombardier Jim" (Morgan).
8.45: Instrumental—The Orchestra, (a) "Ole South" (Zamecnik); (b) "Artist's Life" (Strauss).
8.54: Contralto solo—Miss Madge Freeman, "Fishermen of England" (Phillips).
8.58: Piano solo—Mr. Claude Russell, "Invitation to the Waltz" (Weber).
9.3: Weather report and announcements.
9.5: Soprano solo—Mrs. Ellison Porter, "A Heart that's Free" (Robyn).
9.9: Humour—The Two Boiled Owls, "Screeches" (original).
9.16: Instrumental—The Orchestra, (a) "Bells of St. Mary's" (Adams); (b) "Serenade" from "Les Millions d'Arlequin" (Drigo).
9.26: Duet—Messrs. Edwin Dennis and Clarence Bryden, "Calm, Silent Night" (Goetz).
9.30: Steel guitar trios—Mrs. Mildred Kenney's Trio, (a) "Londonderry Air" (Old Irish); (b) "Monana" (Hawaiian air).
9.37: Tenor solo—Mr. Edwin Dennis, "A Warwickshire Wooing" (James).
9.41: Instrumental—The Orchestra, request numbers.
9.49: Quartet—The Philharmonic, "Old Mother Hubbard" (Wheeler).
9.53: Instrumental—The Orchestra, popular dance numbers.
10.0: God Save the King.

3YA CHRISTCHURCH (306 METRES)—FRIDAY, JUNE 8.

- 3 p.m.: Afternoon session—Selected studio items.
4.25: Sports results.
4.30: Close down.
6.0: Children's session—Big Brother—assisted by a group of young prize-winners in the recent competitions. "The Captain" will give another ten minutes' talk on game-exercises; stories, songs and greetings.
7.15: News session.
8.0: Chimes and overture.
8.5: Mixed vocal quartet followed by tenor solo—Melodious Four and Mr. Russell Sumner, (a) "The Voyagers' Song" (Messenger); (b) "Red Rose" (Messenger).
8.11: Instrumental trios—Christchurch Broadcasting Trio, (a) "Barcarolle" (Tchaikowsky); (b) "Scherzo" (Jade).
8.21: Vocal quartette and soprano solo—Melodious Four and Miss Frances Hamerton, (a) "Come With Welcome" (Messenger); (b) "I Did Not Know" (Messenger).
8.27: 'Cello solo—Mr. Harold Beck, "Barcarolle" (Sitt).
8.32: Soprano and tenor duet with quartette—Miss Frances Hamerton and Mr. Russell Sumner, with the Melodious Four, (a) "Lightly, Lightly" (Messenger); (b) "Rose Minuet" (Messenger).
8.38: Recitals—Miss Winifred Smith, (a) "The Old Stage Queen" (Wilcox); (b) "Katy Did" (MS).
8.44: Baritone solo and chorus—Mr. T. D. Williams and Melodious Four, "When I Was King of Bath" (Messenger).
8.48: Popular orchestra music—Munro Orchestra, (a) "Kiss and Make It Up" (Bogala-Hoeffle); (b) "Moonlit Waters" (Friend and Brown).
8.56: Vocal quartet—Melodious Four, "When the Sun Is Golden" ("Pastoral Fete"), (Messenger).
9.0: Weather forecast.
9.1: Overture.
9.6: Contralto solo, with tenor and baritone—Miss Belle Renaut (solo) and Messrs. R. Sumner and T. D. Williams, "That's a Woman's Way" (Messenger).
9.11: Popular orchestral music—Munro Orchestra, (a) "Red Lips" (Bryan); (b) "Dew, Dew, Dewy Day" (Woods).
9.19: Soprano solo and quartet—Miss Frances Hamerton and Melodious Four, (a) "Phylomel" (Messenger); (b) "Have You Heard" (Messenger).
9.25: Humorous recital—Miss Winifred Smith, "While Mother Attends The Meetings" (MS).
9.30: 'Cello solo—Mr. Harold Beck, "Dance of the Gnomes" (Popper).
9.34: Soprano and tenor duet—Miss Frances Hamerton and Mr. Russell Sumner, "Say No More" (Messenger).
9.38: Tenor solo, followed by contralto and baritone duet—Mr. Russell Sumner—Miss Belle Renaut and Mr. T. D. Williams, (a) "Under the Moon" (Messenger); (b) "We Are Not Speaking Now" (Messenger).
9.46: Popular orchestra music—Munro Orchestra, (a) Saxophone solo and orchestra "Valse Vanite" (Wiedolff); (b) "That Saxophone Waltz" (Lisk).

A SHORT aerial helps to improve selectivity. A long aerial will give greater volume on distant stations. An aerial should be ten times as long as it is high for best reception on local stations. A counterpoise, when used in the place of an earth gives greater selectivity with less static and interference, but volume is slightly decreased. A ground aerial functions in the same manner. Loop aerials have directional effects, and though volume is somewhat decreased, there is less trouble on interstate reception when the receiver is situated near a local station. The best aerial for interstate and local reception should be 35 feet high and not more than 100 feet long. Indoor aerials are poor as a rule, since though they are of a necessity short, and thus selective, they cannot be put to any great height, and insulation needs great care. Also lighting and other electrical installations in the house may interfere with reception.

YOUR portable set (unless it be really portable) becomes a nuisance when heavy accumulators or dry "A" batteries have to be carried about in addition to the "B" batteries. The man who has a car, however, can utilise the accumulator the car carries for ignition purposes, thus saving a lot of bother. Each cell gives approximately two volts, and the battery should therefore be tapped for the number of volts required.

THE new English and American screened grid valves, if efficiently installed, are equal to three stages of radio frequency. It has been found that the gain of even a single stage of radio frequency amplification makes it possible to bring in stations which were never heard before. For the listener who is interested in the short wave broadcasts being sent out by stations in all parts of the world, the new valve will be of inestimable value.



Steffano Webb photo.

MR. C. W. COLLINS,

popular entertainer at 3YA. He played the part of leading comedian in the recent production in Christchurch of the pantomime, "The Babes in the Wood."

A RECOMMENDED cure for interference between valves, microphonic howling of valves, etc., is to buy a few penny sticks of plasticine and to roll this material into balls about an inch and a half in diameter; each ball is then taken and pressed into a cup shape, and this cup-shaped piece of plasticine pressed on to the top of the valve, when it is already in its holder. You will find this will cure many obstinate cases, particularly those valves which normally have a low note or ring. You will find it is only the detector valve, or in very bad cases the first audio amplifier, which will require precautions of this kind.

THE eminent English divine—Dr. Campbell Morgan, D.D.—in many sermons has stressed the point that entertainment or recreation is merely a form of re-creation, and maintains that anything which re-creates the mind, whether it be through the medium of a well-rendered musical selection, or an eloquent Shakespearean recital—is one of the most practical forms of present-day religion. From this, it will be seen that the wireless is doing a great re-creative work among the community, on Sundays as well as week days.

THE ban against the broadcasting of controversial matter having been lifted by the British Broadcasting Corporation, Mr. Arthur Henderson, the Labour Party, will have the first say in the forthcoming bout by broadcast between representatives of the three political parties. Labour was off the mark the moment the ban was lifted. Mr. Henderson applied for an opportunity for Labour to put its case for an early general election. It is believed that this astute move took the other parties by surprise; but naturally, they would not leave the field to their relentless antagonists. Thus there is every prospect of red-hot political controversy over the microphone during this month.

- 9.54: Baritone solo and final chorus—Mr. T. D. Williams and Melodious Four, (a) "A Son of France" (Messenger); (b) "Way For The Ambassador" (Messenger).
10.0: God Save the King.

4YA DUNEDIN (463 METRES)—FRIDAY, JUNE 8.

- 3 p.m.: Town Hall chimes.
3.1: Gramophone recital.
3.15: Relay of afternoon-tea music from the Savoy.
3.30: Talk on "Fashions" by Miss Bucceluch of the D.S.A. Ltd.
3.45: Studio music.
4.0: Relay of music from the Savoy.
4.25: Sporting results.
4.30: Close down.
6.0: Town Hall chimes.
6.1: Children's session—Aunt Sheila and Big Brother Bill—Anthem, greetings, riddles and jokes. Pianoforte solo, Margaret Jolly, "Norwegian Cradle Song" (Morell). Recitation, Lulu Miller, "Little Mary Fancett" (Anon). Storytime, Aunt Sheila. Recitation, Edna Simpson, selector. Recitation, Lucy Robinson, "The Dentist" (Leacock). Letters, birthdays, and the Radio Postie. Song, Neil Ferguson, "The King's Breakfast" (Milne). Travel Talk, "All Sorts of Children," Big Brother Bill. (Musical and elocutionary items in this programme are provided by Miss Sheila Neilson's party).
7.15: News session.
7.30: Book review by Mr. H. Greenwood, librarian of the Athenaeum.
8.0: Town Hall chimes.
8.1: Orchestral selection.
8.5: Tenor solos—Mr. L. E. Dalley, (a) "The Fuchsia Tree" (Quilter); (b) "The Wind" (Spross).
8.9: Pianoforte duet—Misses Marjorie McDowle and Millicent Roger, "Polonaise" (Dvorak).
8.14: Mezzo-soprano solo—Miss Molly Vickers, "Here's to Love" (Rubens).
8.17: Bass solo—Mr. J. B. Macpherson, "The Wolfe" (Shield).
8.20: Recitals—Miss Sheila Neilson, (a) "At The Ford" (Anon); (b) "The Village Bazaar" (Anon).
8.28: Soprano solos—Miss Florence Sumner, (a) "The Winds Are Calling" (Ronald); (b) "Sing, Joyous Bird" (Anon).
8.33: Pianoforte solos—Miss Marjorie McDowle, (a) "Polonaise in C Sharp Minor" (Chopin); (b) "Nadia Waltz" (Dohnanyi).
8.45: Vocal duet—Messrs. L. E. Dalley and J. B. Macpherson, "For You Alone" (Gheel).
8.48: Mezzo-soprano solos—Miss Molly Vickers, (a) "Dedication" (Franz); (b) "Sanctuary" (Hewitt).
8.53: Humorous recital—Miss Sheila Neilson, "Dressing For The Play" (Fisk).
8.58: Bass solos—Mr. J. B. Macpherson, (a) "The Two Grenadiers" (Schubert); (b) "Song of the Bow" (Ayleward).
9.4: Weather forecast.
9.6: Soprano solo—Miss Florence Sumner, "Pleading" (Elgar).
9.10: Relay of dance music by Alf Carey and his Orchestra from the Savoy.
10.0: Close down.

Saturday, June 9

1YA AUCKLAND (333 METRES)—SATURDAY, JUNE 9.

- 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, assisted by Uncle Big and Cousin Small—dialogue, duet. Letters and birthdays: stories and jokes. Song, Cinderella, "Elizabeth Ellen" (Farjeon). Closing chorus.
7.15: News and sports results.
8.0: Chimes.
8.1: Relay of orchestral overture from Prince Edward Theatre orchestra, under the conductorship of Mr. Ernest Beachem.
8.11: Vocal quartette—Lyric Quartet, "A Russian Lullaby" (Arr. F. Crowther).
8.15: Tenor solo—Mr. Herbert Richards, "Parted" (Tosti).
8.19: Vocal and instrumental—Bohemian Trio, (a) "Lay My Head Beneath a Rose" (Murray); (b) "I Wonder How I Look When I'm Asleep" (Chester).
8.27: Humour—Mr. Alan McElwain, Some Humour.
8.32: Vocal quartette—Lyric Quartet, "Dinah" (arr. Lyric Four).
8.36: Relay of orchestral entrance from Prince Edward Theatre.
8.44: Tenor solo—Mr. A. Ripley, "Jest A-Wearing For You" (Jacobs-Bond).
8.48: Humour—Mr. A. McElwain, More Humour.
8.53: Vocal and instrumental—Bohemian Trio, (a) "Blue Skies" (Donaddson); (b) "When You're Lonely" (Ager).
9.3: Bass solo—Mr. E. Thomas, "Friend O'Mine" (Sanderson).
9.8: Vocal quartette—Lyric Quartet, "Evening's Twilight" (Hattori).
9.12: Relay of dance music by The Internationals, under Mr. Clyde Howley, from Dixieland Cabaret.
11.0: God Save the King.

2YA, WELLINGTON (420 METRES), SATURDAY, JUNE 9.

- 3 p.m.: Chimes of the General Post Office clock, Wellington.
3.1: Relay description of Rugby football match from Athletic Park (Mr. C. Lamborg, announcer).
6.0: Children's session—Auntie Dot and Uncle Toby. Special hour of fun. Mouth-organ, songs, stories, and greetings.
7.0: News sessions, market reports, and sports results.
7.40: Lecturette—Professor Hunter, Director, W.E.A., "The Value of Adult Education."
8.0: Chimes of the General Post Office clock, Wellington.
8.1: Overture—The Orchestra, "Sounds from the Sunny South" (Iseman).
8.9: Quartet—Melodie Four, "They Kissed" (Macy).
8.12: Bass solo—Mr. W. W. Marshall, "Drinking" (Old German melody).
8.16: Instrumental—The Orchestra, (a) "Raindrop Prelude" (Chopin); (b) "Serenade" (Drilla).
8.25: Tenor solo—Mr. P. Bryant, "Homeland" (Sanderson).
8.30: English mandola—Mr. Lad Haywood, (a) "Somewhere a Voice is Calling" (Taft); (b) "Only a Year Ago" (Albers).
8.37: Humour—Mr. Geo. Fitchener, "My Motor-bike."
8.42: Instrumental—The Orchestra, "Three Spanish Dances" (Moszkowski).
8.50: Light vocal—The Glad Idlers, "Love Birds" (Weston and Lee).
8.55: Concertina—Mr. R. M. Stratmore, "Medley of Plantation Melodies."
9.0: Weather report and announcements.
9.2: Baritone solo—Mr. R. S. Allwright, "She is Far from the Land" (Lambert).
9.6: Tenor solo—Mr. Sam. Duncan, "I Hear a Thrush at Eve" (Cadman).
9.10: Instrumental—The Orchestra, "The Chocolate Soldier" (Sullivan).
9.18: Quartet—Melodie Four, "Mosquitoes" (Stringer).
9.22: English mandola—Mr. Lad Haywood, (a) "One Fleeting Hour" (Lee); (b) "I Gathered a Rose" (Lee).

(Continued on page 14.)

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The Browning-Drake Shield-Grid Booster

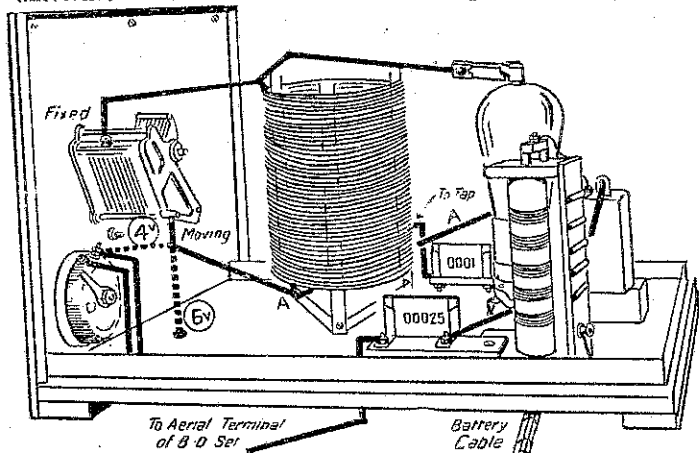
Adds High R. F. Amplification to any Receiver

By "Megohm"



HERE we have a means of adding an extra radio-frequency stage of high amplification to the four-valve Browning-Drake in particular, and in a general way to sets utilising a different type of circuit. This circuit was published in an American magazine, and the general lay-out has been altered by the writer in order to suit it for home construction. The circuit proper is just as designed by Mr. Glenn H. Browning, with the exception that the aerial is now connected to the usual tap at the filament end of coil instead of to the top, as is usual in America. The original article claims that this unit may be attached to any receiver, the only difference being that where the circuit is not the Browning-Drake type, the connection from the booster is attached to the stator of condenser instead of to the aerial terminal. There may be a few special circuits requiring a slight difference in the mode of at-

The panel of the unit has to be specially provided for, and so long as it is of suitable metal, may be left to the taste of the constructor. In the experimental model the writer used three-ply of good quality, which was given a coat of shellac. Upon the back was attached by means of 4in. brass screws, a piece of the 28's copper with the top and two side edges turned at right angles half an inch so that the end of the cover can fit inside, close the join as much as possible. Ebonite used in place of the three-ply would give a smart appearance, and the copper could be attached to the back by means of countersink headed bolts, the heads being sunk in the ebonite. No view of the front panel is given, as it only contains the rheostat and vernier dial with centre about 5 1/2 in. from lower edge. The dial is centrally placed in relation to the sides of the panel, and at the back the condenser frame is tilted down towards the aerial side, giving room for the rheostat at right of front panel.



tachment, but a little experiment on the part of the constructor will no doubt overcome any such obstacle.

THE unit as described functioned well as soon as attached to a receiver, and belied the supposed difficulties that have been written round the shield-grid valve, at least in connection with other circuits. The circuit could hardly be any simpler, and the only item new to some constructors will be the shielding, which it must be noted, is indispensable.

THE SHIELDING.

THE shielding is of 28's s.w.g. copper sheet, and constructors are referred to the article on the shielded two r.f. unit described on May 18. There they will find dimensions of the screening cover and tray upon which it stands. The cover is 11 1/2 in. long, 7 in. high, and 6 in. wide.

The baseboard, of 3-in. rimu, measures 12 by 6 1/2 in., and is clamped underneath with two one-inch strips of the same wood.

A coat of black cycle enamel puts a good finish upon the outside of the shielding. If the copper is tinned on one side, let that be the inside of both cover and tray, as it will keep bright and clean almost indefinitely.

THE CIRCUIT AND WIRING.

DIAGRAMS make the wiring and general circuit arrangements fairly clear. The radio-frequency choke shown is an experimental one, that was described in this column some time ago, the full 1000 turns being utilised. This choke consists of five sections of 40's enamelled wire of 200 turns in each section. It is quite unnecessary to construct the choke on

the lines described, and for simplicity the turns could be wound in groups of 200 on a glass test-tube, 4 in. in diameter, continuing the wire without a break from one group to the next. Suitable R.F. chokes can be purchased ready-made, but see that it is one suitable for broadcast wave-length, and not short-wave.

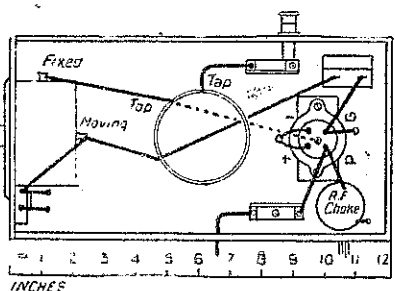
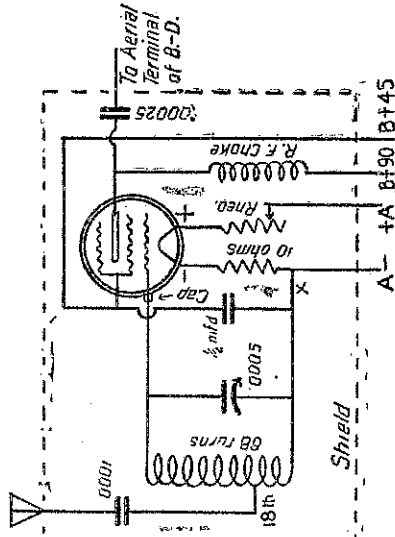
One end of the .00025 fixed condenser is connected to the plate of the valve, the other to a covered wire passing down through a hole in the base, and out to connect to the aerial terminal of the Browning-Drake receiver. This is the only connection to the receiver, the earth connection being left attached to its usual terminal. This condenser is shown as a home-built one, supported on a strip of ebonite, screwed to the base of choke, but a bought condenser can be used and supported in any convenient way.

The arrangement for the .0001 fixed condenser between the aerial terminal and tap at the 18th turn of the coil is exactly the same as used in the Browning-Drake receiver. The condenser is supported by a stiff connecting wire or strip of brass, bolted to the back of the aerial terminal, and to the strip of ebonite supporting the condenser.

The half-microfarad by-pass condenser is raised from the tray about an inch, supported on a small block of wood secured to the base by a screw. The condenser is secured to the block by bending the prongs at right angles, and holding down by means of small screws in the slots.

The ordinary control grid of the valve connects to the metal cap at the top of the bulb. This is connected to the top of the tuning coil, and stator of condenser by a wire, terminating in a small-sized battery clip, which grips the cap, making a firm connection.

THE battery leads are four in number, and should be "cabled" by binding together the wires as they



leave the unit, the A and B leads being bound together separately, where they have to divide to run to the respective batteries. Wires with different colours of covering are useful for this, otherwise each lead should be labelled at the ends.

The wires under the baseboard all run to a point under the choke coil, and from there they are bound together in cable form, outfitting the wire that connects to the receiver.

Solder all connections possible, and let wires run fairly direct from point to point, at the same time keeping a reasonable distance from other parts of the circuit.

The valve socket, UX type, may be either a Benjamin spring pattern or a solid build, and should be mounted on a small block of wood an inch high.

One side of the R.F. choke connects to plate of valve, the other goes through a hole in baseboard and joins the cable as B positive, 90 volts.

In the pictorial side view, note the wire coming from moving plates of condenser. With a six-volt A battery this connects to the end of a 10-ohm resistance away from filament, and to negative A in cable. To effect this it passes through a hole in baseboard.

QUERIES BY CORRESPONDENCE.

1. Every communication enclosing queries is to be addressed to "Megohm," Box 1032, Wellington, and must be accompanied by a stamped addressed envelope for reply by post.

2. Questions must be written so that a space is left in which the reply may be added.

3. No charge is made for replies.

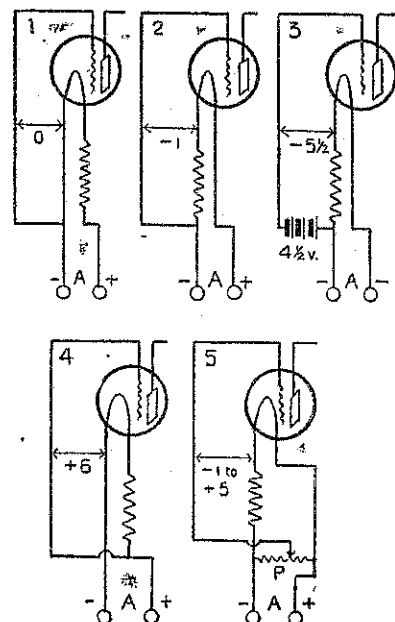
WITH a four-volt A battery the moving plates connect to the end of the rheostat away from the filament negative. These two connections are shown dotted, with the voltage, 4 or 6 marked in a circle.

The moving plates are also connected to the lower end of coil at A and the wire continues under the coil to another a, and to one side of the half-microfarad by-pass condenser.

The connection from top of coil to grid cap of valve is shown dotted on the plan.

GRID BIAS.

THE correct grid-bias for the control grid is provided without the use of a separate battery by inserting in the negative filament lead a fixed resistance of 10 ohms. This must be placed next to the negative connection to the valve socket, and may be either the wire element of a 10 ohm rheostat, or the correct amount of micromere

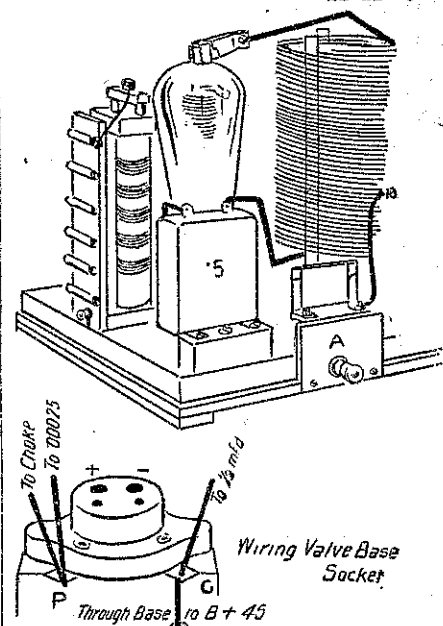


triangle of wood to act as a base. This is secured to the baseboard by a screw through the centre. Where screws have to pass through the copper tray it should be drilled through as a preliminary.

PARTS AND MATERIALS REQUIRED.

THE following is a list of requisites, not including the valve, which costs £2 2s.

| | | |
|------------------------------------|----|------|
| Variable condenser, .0005 | 12 | 0 |
| Vernier dial at least 10 to 1 | 6 | 6 |
| R.F. choke | 10 | 0 |
| .5 m.f.d. by-pass condenser | 4 | 6 |
| .0001, .00025 fixed condensers | 4 | 6 |
| Rheostat, 30 ohms | 3 | 0 |
| Valve socket | 2 | 3 |
| Copper sheet | 6 | 0 |
| Clip, screws, terminal, wire, etc. | 2 | 6 |
| | £2 | 11 9 |



TIPS AND JOTTINGS.

VERY small values of capacity across the secondaries seriously reduce the voltage of the higher frequencies. Condensers shunted across audio transformer secondaries are almost fatal to high-quality reproduction, though they often cause the production of unnatural musical effects which are quite pleasing to many listeners.

Moving-coil Loudspeaker.

THIS type of speaker is gradually coming into use in other countries, and gives very fine reproduction. A disadvantage is that this type generally requires a much greater input than other types, and it is found necessary usually to employ either parallel valves or push-pull amplification in the output stage. The latter is considered more efficient, as it enables a big output to be obtained with a limited value of high tension.

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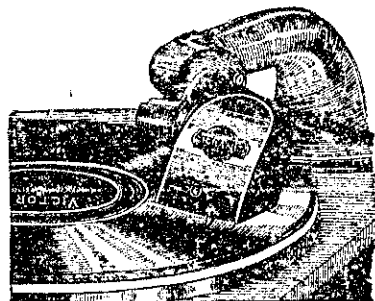
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Construction Continued

A NEW B ELIMINATOR

THE new RCA "B" eliminator is a decided improvement over all previous types in that it meets the popular demand for one which will operate with a minimum of attention and maintenance expense. The unusual features of the new RCA "B" eliminator are to be summarised as follows: The operating mechanism is enclosed and sealed in permanent steel containers. No acid or liquids to be replenished. No mechanical parts or tubes to be replaced.

Its compactness is shown by the dimensions—Height 6 1/2 in., width 7 1/2 in., length 10 1/2 in. The small size makes it particularly convenient for installation in radio cabinets.

Once connected to a power main and the radio set the RCA "B" eliminator will need no further care or attention.

A device employing the same type of rectifying unit as that used in the RCA "B" eliminator has been tested in the RCA technical and test department for 4600 hours continuous operation, or approximately four years of ordinary use in the home. During that time the device required no adjustment or replacement and the voltage and current output remained constant.

Under average load the eliminator draws only 22 watts from the mains, and supplies sufficient current for any type of receiver up to eight valves. The voltages available are as follows:—

- 2 milliamperes from the 45 volt terminal.
- 15 milliamperes from the 67 or 90 volt terminal.
- 15 milliamperes from the 135 volt terminal.

For all practical purposes in the average home the loudspeaker volume of a UX-171 or UX 171-A radiotron when used with a plate voltage of 135 volts will give the same satisfactory results as are obtainable when the maximum allowable potential of 180 volts is applied. Furthermore, at the lower plate voltage the life of the radiotron is prolonged.

The above information is given to correct the popular belief that radio sets using UX-171 or UX 171-A radiotrons in the second audio stage will not give a completely satisfactory performance unless the maximum allowable plate voltage is used.

WOOD STAINS

THE following recipes for stains will be useful to those who construct their own cabinets:—

Oak.—Dissolve 1/2 oz. of permanganate of potash in 1/2 pint of rainwater. Two or three applications may be needed. Mahogany.—Dissolve 1/2 oz. of Bismarck brown in 1/2 pint of methylated spirit.

Walnut.—Dissolve a handful of common washing soda in a quart of water, adding brown umber until the desired colour is obtained.

Black.—Dissolve 1/2 oz. of black aniline dye in 1/2 pint of methylated spirit.

NEW GRAMOPHONE PICK-UP

THE Amalgamated Wireless Co. has just landed an initial shipment of a gramophone pick-up of extraordinarily high quality. This accessory, manufactured by the General Electric Co. of America, should appeal to those in search of a really high-grade instrument.

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A bit better quality;
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GRID BIAS WITHOUT A BATTERY

HOW IT IS OBTAINED

WHERE the required grid bias is not high, it may sometimes be obtained by utilising the "drop" in voltage of the A battery across the filament resistance. For the purpose of illustration we will assume that the usual six-volt A battery is in use. Reference to Fig. 1 shows that the filament rheostat is placed in the positive filament lead, and that there is no negative bias on the grid. In Fig. 2, with a five-volt filament in the circuit and the resistance in the negative lead, we get a negative bias on the grid of 1 volt, which is the voltage drop, or difference between the voltage of the battery and the voltage required by the filament.

In Fig 3 we have the same circuit as in the previous one, except that a 43-volt grid bias battery has been added. Then the negative bias is the drop of one volt plus the battery voltage, which gives a total of 5 1/2 volts negative on the grid.

If the resistance is in the positive lead and the grid return connected to the positive A terminal of the battery as in Fig. 4, a positive grid bias of 6 volts is obtained, and if the grid return is connected to the other end of the resistance, then the volt dropped across the resistance is cut out, and the grid bias is then equal to the voltage drop in the filament, or 5 volts positive.

Figure 5 shows how a potentiometer may be connected in order to give a variable bias from 1 volt negative in the left-hand position to 5 volts positive in the extreme right-hand position.

When working with valves requiring four volts or less, still using a six-volt battery, higher values of negative grid bias can be obtained on account of the larger amount of resistance utilised and the consequent greater drop across it.

Tracking Distortion.

A MILLIAMMETER connected in the plate circuit of the last valve is of great help when adjusting the grid bias and anode voltage. Tune the set to receive signals of normal strength, and notice whether the needle of the milliammeter moves. If it kicks upwards the grid of the valve has too large a negative bias, and the valve is rectifying because of the curvature of the lower part of the characteristic.

Reset the grid bias and again watch the needle of the milliammeter. If it kicks downwards there is insufficient grid bias; probably grid current is flowing.

When the needle appears to move above and below its normal reading the valve is being overloaded, and the input should be reduced. It will be noticed that the effect of low notes is to cause the needle of the milliammeter to move violently, whereas notes of higher frequency, and of apparently equal strength, do not affect the milliammeter. It is assumed, of course, that the earlier valves of the receiver are not distorting; this is almost invariably the case.

The UX222 Valve.

The new valve at least offers an escape from the bug-bear of plate-to-grid capacity inside the valve, and for this important reason we get very large gains per stage of R.F. amplification, freedom from the necessity of neutralising, large gains per stage of A.F. amplification, and the ability to amplify successfully at wave-lengths as low as 3 metres. "Radio Broadcast" considers that this valve is as yet only in its experimental stage, and that a good amount of trial and adjustment is necessary to get an amplifier to function satisfactorily. Results have already shown that the trouble is well repaid.

Power Tubes.

For an increase from the 112 power-valve, when only moderate plate voltages are available (not in excess of 200 volts), a 171 is capable of giving greater output than can be obtained from a 210 under similar conditions of plate voltage.

(End of construction).

CRYSTAL CONTROL

ABSOLUTELY CONSTANT VOLTAGE & TEMPERATURE NECESSARY

The successful operation of crystal-control at a broadcast station is not such an easy matter as some people suppose, according to the New York "Radio Broadcast." The object of crystal-control is to prevent a broadcast station from swinging off its allotted wavelength while transmitting, a not uncommon trouble in this quarter of the globe.

The zero-beat method, employing crystal control oscillators, is now widely used (writes Edgar H. Felix in the "Radio Broadcast"). The station operator wears a headphone through which courses the output of the crystal oscillator and also the station's radiated carrier frequency. The frequency of the station is adjusted until the two are in exact synchronism so that no heterodyne whistle is heard.

In preparing to write this article, the author maintained a broadcasting station on its frequency by the zero-beat method for several programmes. When utilizing a crystal oscillator, installed at the station, the comparison signal is constant and powerful. The amount of skill required and the cost of maintenance of the equipment needed are within the reach of any broadcasting station.

Trouble Can Be Cured.

Independent crystal control, however, has been described as too inaccurate and too unstable to permit the perfect synchronization of two carriers. (This refers to the plan proposed in America by which two stations broadcasting the same programme by the "chain" method may use exactly the same wavelength.—Editor, "Radio Record.") As a matter of fact, there is no inherent fault in the crystal oscillator which cannot be corrected. What are needed are perfected means of supplying crystal oscillators with absolutely constant voltages and means of maintaining the crystal as an absolutely constant temperature.

A change of one degree centigrade varies the frequency of a crystal oscillator by sixty to a hundred cycles. The crystal oscillator is usually installed in a penthouse on the roof of a building where the transmitter is installed. Heat supply is often uncertain in such exposed locations and temperature variations of twenty degrees, during operating hours, are not uncommon. Such a change is sufficient to cause a 2000-cycle variation in the frequency of a crystal oscillator.

Inefficient Crystals.

Crystals have been submitted to laboratories by broadcasting station owners with a view to finding out why they do not hold the station to its assigned frequency. Among these are ordinary quartz lenses, crudely scratched and insecurely mounted in contacting clamps. These worse-than-useless crystals have been sold to broadcasting stations with the expectation that they will stabilize carrier frequencies. The fact that a station uses a crystal control is no guarantee whatever that it will remain accurately on its frequency any more than providing an aviator with a compass assures that he will arrive safely at a distant destination.

Accurate Control Necessary.

Proponents of the crystal oscillator method have sometimes proved their case by setting up two such oscillators in the laboratory, both using a slab from the same quartz crystal. Such demonstrations, however, prove nothing, because both oscillators are then working under exactly the same conditions. When one of the oscillators is shipped to a distant station to control its carrier, varying temperature conditions cause sufficient deviation to produce annoying heterodynes. With equipment now commercially available, the crystal oscillator does not possess sufficient stability to eliminate the heterodyne whistle between two stations operating on the same channel. Nevertheless, development of precision oscillators, with accurate temperature control, is a most promising line of research.

4QG, BRISBANE

BACK TO THE FOLD.

FOR over a year the Queensland Government broadcast station, 4QG, Brisbane, has been received in New Zealand with so much distortion that it has been not worth listening to for more than a few minutes each evening. Lately, however, the Brisbane station has cleared its voice, and is now coming in with splendid clarity and volume. The other night, after broadcasting hours in Brisbane, a Wellington listener heard 4QG carrying out modulation tests with a distant listener who was to telegraph the results to the station. Gramophone items were run for about an hour.

It is estimated that for the year ending March next the British Broadcasting Corporation's gross income, apart from the results of any investments they may have made, will be about £880,000.

AUCKLAND DIRECTORY

What to Buy and Where

| | |
|--------------------------------------|--|
| ATWATER-KENT RADIO | Frank Wiseman, Ltd. 170-172 Queen Street. |
| ALTONA & HAMMARLUND-ROBERTS SETS. | Johns, Ltd. Chancery Street. |
| AMPLION LOUDSPEAKERS | All Radio Dealers. |
| BREMER-TULLY RADIO | Superadio, Ltd., 147 Queen Street. |
| BURGESS RADIO BATTERIES, | All Radio Dealers. |
| CE-CO VALVES | All Radio Dealers. |
| FADA RADIO | Radio Supplies, 251 Symonds Street. |
| FEDERAL, MOHAWK, GLOBE | Federal Radio House, 8 Darby Street. |
| GAROD, CROSLY, RADIO AND ACCESSORIES | The Hector Jones Electrical Co. King and Queen Streets, Hastings. |
| GILFILLAN AND KELLOGG | Harrington's, Ltd., 138-140 Queen Street. |
| GREBE RADIO | Howie's, Dilworth Building, Custom St. E. |
| MARCONI ECONOMY VALVES | All Radio Dealers. |
| MULLARD VALVES | All Radio Dealers. |
| RADIOLA RECEIVERS | Farmers' Trading Co., Ltd., Hobson Street. |
| RADIOTRON VALVES | All Radio Dealers. |
| RELIANCE BATTERIES | Reliance Battery Mfg. Co., Ltd., 96 Albert Street. |
| PHILIPS VALVES AND APPARATUS | All Good Radio Dealers. |

IS YOUR VALVE HOWLING?

A SIMPLE TEST.

It is possible for a radio set to oscillate without it making this condition known to its owner by means of howls or squeals, as an oscillating set often only squeals or whistles or chirps when its tuning dial is being adjusted.

If the tuning dial is not adjusted whilst it is oscillating it is quite possible that there will be no chirp, whistle, etc., but nevertheless the owner should be able to tell whether it is oscillating, because the quality is generally decidedly poor, speech inevitably being indistinct, and the music being rather harsh.

On the other hand, it is quite possible for a set which is not oscillating to have a marked effect upon a neighbour's receiver if the two aerials happen to run very close to one another. Even sets which cannot possibly oscillate, such as crystal sets, can have a marked effect upon one another in this way, owing to interaction across the space between the two aerials.

The only remedy is to increase this space as far as possible. In other words, to separate the two aerials, not merely getting them the greatest distance apart but, if possible, making one cross underneath or above the other, and run at an angle to it instead of running parallel with it. If the aerials must run in the same direction, i.e., perhaps both north and south, it will be advantageous to have one aerial pretty high and the other pretty low, so that the distance between them is at a maximum.

If you have a friend who has had a little experience in wireless, he can easily tell you whether your set is oscillating or not from a brief inspection of it, or you can make a rough-and-ready test for yourself by wetting your finger and tapping the aerial terminal with it when the set is in action.

If, then, you can hear very loud clicks corresponding in the telephones or loudspeaker, it is probable that you are using a little too much reaction and either oscillating or getting very near to it; but if the tapping is inaudible, or only just audible, you can be pretty sure that your set is not oscillating and is not causing interference with neighbouring listeners.

THE British Postmaster-General, in a written Parliamentary reply reported recently that the number of persons prosecuted during the twelve months ended January 31 last, for the use of wireless receiving apparatus without a license was 1046. Convictions were obtained in 1043 cases, the remaining three being dismissed.

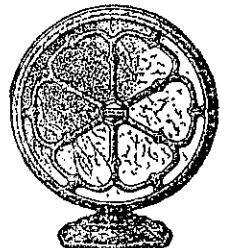
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63 WILLIS STREET, WELLINGTON, N.Z.

Programmes Continued

(Continued from page 11.)

- 9.29: Humour—Mr. Geo. Titchener, "I'd Like to Shake, Shake Shake—spear." (Newton).
 9.34: Instrumental—The Orchestra, request numbers.
 9.42: Duet—Messrs. F. Bryant and R. S. Allwright, "Here's to the Lass" (Newton).
 9.46: Concertina—Mr. R. M. Stratmore, "Sweet Chiming Bells" (traditional).
 9.51: Light vocal—The Glad Idlers, "Wandering Time" (Weston and Milton).
 9.56: Quartet—Melodie Four, "Slow River" (Schwab, arr. Frank Crowther).
 10.0: Dance programme—Vocal choruses by the Glad Idlers.
 11.0: Close down.

3YA CHRISTCHURCH (306 METRES)—SATURDAY, JUNE 9.

- 2.45 p.m.: Relay description of Rugby football at Lancaster Park.
 6.0: Children's session—Uncle Sam and Aunt May—Bedtime stories, songs, music and choruses.
 7.15: News session.
 7.30: Sports results.
 8.0: Chimes and overture.
 8.5: Plantations choruses, followed by tenor solo—Avonian Minstrels and Mr. Ernest Rogers, (a) "Our Dinah," with bones and tambourine effects by Mr. Alf Cotton, (Scott Gatty), (b) "For You Alone" (Gheel).
 8.13: Mouth organ solos—Mr. Alfred Tohill, (a) "Marcheta" (MS), (b) "The Bells of St. Mary's" (MS).
 8.19: Bass solo—Mr. J. Filer, "Bombardier" (Rawlings).
 8.23: Scottish humour in song—Mr. Bracey Wilson, "Hooch Aye" (Frame).
 8.28: Plantation chorus—Avonian Minstrels, "It's Gone," with bones and tambourine effects by Mr. Alf. Cotton (Scott Gatty).
 8.32: Instrumental Trios—Christchurch Broadcasting Trio—(a) "Andante" (Papini), (b) "Capriccio" (Reissiger).
 8.42: Tenor solo—Mr. D. Clapperton, "Meadow Lark" (Keilen).
 8.46: Burlesque—Mr. Sidney Comfort, "Told by the Steeplejack" (own arrangement).
 8.52: Happy songs at the piano with ukulele obligato—Misses Muriel Johns (piano) and Edna Johnson (ukulele), one or two happy songs (own arrangement).
 8.58: Weather forecast.
 9.0: Overture.
 9.5: Plantation chorus—Avonian Minstrels, "A Darktown Lullaby," with bones and tambourine effects by Mr. Alf. Cotton (Jones-Hinds).
 9.9: Scottish humour—Mr. Bracey Wilson, "The Waggle o' the Kilt" (Lauder).
 9.14: Bass solo—Mr. J. Filer, "The Bosom of the Deep" (Johnson).
 9.18: Instrumental Trios—Christchurch Broadcasting Trio, (a) "Water Lilies" (Hope), (b) "Gavotte" (Thomas).
 9.28: Humorous recital—Mr. Sidney Comfort, "The Curate" (original).
 9.33: Tenor and bass duet—Messrs. E. Rogers and J. Filer, "The Battle Eve" (Bonheur).
 9.37: Happy songs at the piano with ukulele obligato, Misses Muriel Johns (piano), and Edna Johnson (ukulele), More Happy Songs (own arrangement).
 9.43: Mouth organ solos—Mr. Alfred Tohill, (a) "Destiny Waltz" (MS), (b) "Pack Up Your Troubles in Your Old Kit Bag" (MS).
 9.49: Monologue—Mr. Frank Olds, "Hello! What Are You Doing Here?" (MS).
 9.54: Plantation chorus—Avonian Minstrels, "De Lecture," with bones and tambourine effects by Mr. Alf. Cotton (Scott Gatty).
 Dance music until 11 p.m.
 God Save the King.

4YA DUNEDIN (463 METRES)—SATURDAY, JUNE 9.

- 2.45 p.m.: Relay description of Rugby football match (senior grade) from Carisbrook Grounds.
 5.0: Close down.
 7.15: News session.
 7.30: Address on "Psychology" by Mr. H. McQueen of the Technical College (under the auspices of the Workers' Educational Association).
 8.0: Town Hall chimes.
 8.1: Relay of orchestral music from the Empire Theatre.
 8.10: Vocal quartet—4YA Harmonists, "Alice, Where Art Thou?" (Asher).
 8.14: Pianoforte solos—Miss Aroha Allan, (a) "The Doll Dance" (Brown), (b) "Polly" (Zamecnik).
 8.19: Soprano solo—Miss Roma Buss, "Song of Sunshine" (Thomas).
 8.22: Violin solos—Mr. A. R. Watson, (a) "Polonaise" (Bohm), (b) "Romance" (Thelma).
 8.30: Tenor solo—Mr. R. A. Mitchell, "Passing By" (Purcell).
 8.33: Cornet solo—Mr. George Christie, "The Mocking Bird" (Cox).
 8.40: Mezzo-soprano solo—Miss Mollie Andrews, "The Hills of Donegal" (Sanderson).
 8.43: Relay of orchestral music from the Empire Theatre.
 8.50: Baritone solo—Mr. F. M. Tuohy, "The Night Nursery" (Arundale).
 8.53: Flute solos—Mr. J. W. Stewart, (a) "Belladonna" (Buckner), (b) "Philomelus Klage" (Popp).
 9.3: Weather forecast.
 9.5: Vocal quartet—4YA Harmonists, "A Lover's Ditty" (Stanford).
 9.5: Pianoforte solos—Miss Aroha Allan (a) "Simple Aven" (Thome), (b) "Liebestraume" (Liszt).
 9.15: Soprano solo—Miss Roma Buss, "The Willow" (Thomas).
 9.19: Violin solo—Mr. A. R. Watson, "Carnival de Venice" (Haddock).
 9.24: Tenor solo—Mr. R. A. Mitchell, "Be Thou Faithful Unto Death" (Mendelssohn).
 9.29: Cornet solos—Mr. George Christie, (a) "Tranquillity" (Hume), (b) "Romance" (Jenkins).
 9.35: Mezzo-soprano solo—Miss Mollie Andrews, "Love, Here Is My Heart" (Slesu).
 9.38: Flute solo—Mr. J. W. Stewart, "Loreley" (Paraphrase), (Brook).
 9.43: Baritone solo—Mr. F. M. Tuohy, "Eleonore" (Coleridge-Taylor).
 9.46: Vocal quartet—4YA Harmonists, "Good-night, Good-night, Beloved" (Pinsuti).
 9.50: Relay of orchestral selections from the Empire Theatre.
 10.0: Close down.

Sunday, June 10

1YA AUCKLAND (333 METRES)—SUNDAY, JUNE 10.

- 2 p.m.: Afternoon session—selected studio items.
 4.0: Literary selection by the Announcer.
 4.5: Selected studio items.
 4.30: Close down.
 6.0: Children's song service conducted by Uncle Leo, assisted by cousins from Dominion Road Methodist Sunday School.
 7.0: Relay of evening service from St. Andrew's Church. Preacher, Rev. Lamb Harvey. Organist, Dr. Neil McDougall.
 8.30: Relay of Auckland Municipal Band Recital from Town Hall (under the conductorship of Mr. Christopher Smith).
 9.30: Close down.

2YA, WELLINGTON (420 METRES), SUNDAY, JUNE 10.

- 11 a.m.: Relay of morning service of the Cambridge Terrace Congregational Church. Preacher, Rev. Thomas Yates; organist and choirmaster, Mr. T. Forsyth.
 3 p.m. to 4.30: Afternoon session.
 6.0: Children's session—Uncle Ernest and St. James's Presbyterian Choir.
 6.55: Relay of evening service from St. Thomas's Anglican Church, Newtown. Preacher, Rev. F. S. Ramson, L.T.I.L. (Vicar of Petone); organist and choirmaster, Mr. Wenzel Collier, L.L.C.M.
 8.15 (approx.): Relay of band recital of the Port Nicholson Silver Band from the Grand Opera House. (Conductor, Mr. J. J. Drew.)

3YA CHRISTCHURCH (306 METRES)—SUNDAY, JUNE 10.

- 5.30 p.m.: Children's song service, conducted by Uncle Sam, assisted by scholars from the Tennyson Street Congregational Sunday School.
 6.30: Relay of evening service from Trinity Congregational Church. Preacher, Rev. D. Gardner Miller.
 8.15: Relay of 2YA Wellington (Band Concert by the Port Nicholson Band, from the Grand Opera House, Wellington).
 God Save the King.

4YA DUNEDIN (463 METRES)—SUNDAY, JUNE 10.

- 5.30 p.m.: Children's song service conducted by Big Brother Bill, assisted by the Y.M.C.A. Boys' Division Choir.
 6.30: Relay of service from the Methodist Central Mission. Preacher, Rev. W. Walker. Organist, Mr. Chas. A. Martin.
 8.0: Relay from His Majesty's Theatre of concert by the Kaikorai Band, under the conductorship of Mr. E. Franklin.
 9.15: Close down.

Features

(Continued from Page 7).

Deep," "Come to the Fair," and "Home, Boys, Home." In two instances there will be chorus accompaniment. Miss Joyce Seth-Smith's items on Monday evening will be "Blackbird's Song," "The Faery Pipers," "The Nightingale," and "The Forge." A talk on aviation will be given by Captain J. L. Findlay, M.C., on Monday evening.

Following on their success with several musical plays, notably "The Quaker Girl," which was presented recently, the Radiolian Quartet will on Wednesday give a radio production of "Our Miss Gibbs," when the principal vocal items of this very popular play will be sung. The members of this quartet are:—Mrs. Claris Shaw, Miss Mildred Russell, Mr. Gregory Russell, and Mr. W. J. Richards.

Also to be heard on Wednesday evening will be the Studio Trio—Mr. E. G. Williams (tenor trombone), Mr. S. N. Crisp (euphonium), and Mr. George Ferris—who will give an excerpt from "The Sentimental Bloke."

A vocal programme in which New Zealand composers will feature prominently has been prepared for Thursday evening. Some of the songs to be sung will be well known, notably those by Mr. Alfred Hill, but others will be heard for the first time by a great many listeners. In the hands of the Madame Gower-Burns Grand Opera Quartet, however, full justice will be done to the melodies.

Apart from the musical compositions, the works of New Zealand authors such as W. Pember-Reeves and Will Lawson will be interpreted by Miss Lucy Cowan and Mr. J. F. Cannell. The two pieces worthy of mention are "The Passing of the Forest" and "The Song of the Saws." Instrumental items on the programme will be contributed by the Studio Trio—Mr. S. E. Munday (clarinet), and Mr. Percy W. Reeves (trumpet).

"Monsieur Beaucaire," the romantic opera by Massager, will form the basis of the vocal portion of the entertainment on Friday evening, the singers being the members of Miss Frances Hamerton's Melodious Quartet. Messager made his name famous with light opera compositions, and there are many bright and tuneful melodies in "Monsieur Beaucaire."

Assisting the vocalists on Friday evening will be the Studio Trio—Mr. Harold Beck (cello), Miss Winifred Smith (elocutionist).

There will also appear for the first time at 3YA on Friday the Munro Orchestra, which will dispense music of the popular kind.

Plantation melodies, complete with bones and tambourine effects, will figure on 3YA's radio vaudeville programme on Saturday evening. The vocalists will be the popular Avonian Minstrels, and Mr. Alf. Cotton will be responsible for the accompaniment. The same vocalists will also be heard in solo items, while one member, Mr. Frank Olds, will give a monologue.

Other star items on the evening's programme will be Mr. Bracey Wilson in Scottish humour, Misses Johns and Johnston in happy songs, with piano and ukulele, the Studio Trio, Mr. Alfred Tohill (mouth-organ), and Mr. Sidney Comfort (humorous recitations). Dance music will continue till 11 p.m.

The Rev. D. Gardner Miller, preacher at Trinity Congregational Church, will be on the air on Sunday evening. Afterwards will follow a rebroadcast of a concert given by the Port Nicholson Band in the Grand Opera House, Wellington.

The Radio Depot

165 Manchester St., Christchurch.

E. G. SHIPLEY.

RADIO SPECIALIST.

Phone 4770.

Glossary of Wireless Terms

UNDER this heading we will give regularly sections of the glossary of wireless terms which is a prominent feature of the N.Z. Radio Listeners' Guide. In that book, although set in the smallest type, it occupies some 13 pages, and is definitely in our opinion the most comprehensive and complete glossary on modern lines which has been made available in the Dominion. For the benefit of our readers the glossary will be reprinted in our columns.

"A" BATTERY.—The alternative name for the low-tension (L.T.) battery. It is employed for heating (or lighting) the valves in a radio set. The "A" battery may comprise "dry" or "wet" cells (accumulator-type). It usually comprises one, two or three cells. In a "wet" "A" battery each cell has a normal voltage of about 2 volts. In a "dry" "A" battery each cell is of about 1½ volts. The terminal in the centre of the dry "A" battery cell is the "plus" or "positive" and the terminal on the rim of the cell is the "minus" or "negative." In "wet" "A" batteries (or accumulators) the practice is to mark the "plus" or "positive" terminal with red colouring or to stamp the metal terminal with the "plus" (?) sign. The "minus" or "negative" terminal is invariably black coloured, and is marked with the "minus" (—) sign.

ABSORPTION.—The reduction in amplitude of an ether wave due to loss of energy occasioned by the resistance offered to it in its travel from the transmitter to the receiver. Trees, buildings, mineral deposits, mountains, etc., all take their toll, resulting in depleted energy arriving at the receiver. The receiving aerial itself is capable of absorbing energy from aether waves in terms of its efficiency or receptivity.

A.C.—See "Alternating Current."
A.C. RECEIVERS.—Receivers with many special valves and attachments allowing them to be plugged straight into A.C. mains without the necessity of batteries.

ACCUMULATOR.—A chemical appliance used for the storage of electrical energy, comprising a cell or cells, each containing a liquid acid or alkali and two metal plates (an anode or positive

plate and a cathode or negative plate). Small accumulators are sometimes rated commercially at the intermittent discharge rate, which is generally double that of the actual rate. An accumulator with acid electrolyte will deliver 2 volts per cell, while one with an alkaline solution shows about 1.2 to 1.5 volts.

ADAPTOR.—A term employed to describe various devices intended to adapt one piece of apparatus by its application so that some other device may be attached or used in conjunction with it, generally without the need of altering the existing appliance. An adaptor may also be a device for changing the characteristics of certain apparatus. A short-wave adaptor enables a wireless receiving set to extend its tuning range so that it will receive the ultra-short wave signals or broadcasting. Another type of adaptor permits the household electric lighting mains to be used as an aerial.

AERIAL.—The wire or wires by means of which wireless waves are transmitted or received. In effect the aerial acts as one plate of a condenser, of which the earth is the other plate, and the air between is the insulating material, or, as it is generally called, the dielectric.

AERIAL CIRCUIT.—The aerial circuit embraces the aerial and all devices connected between the aerial and the earth, usually including a variable condenser and tuning coil.

ETHER.—Theoretically a medium of great elasticity, presumed to pervade all space and all solid and liquid bodies. It is the medium through which light, heat and radio waves are supposed to be transmitted. Not to be confused with the anaesthetic known as ether.

4YA ATTRACTIONS

A variation from the usual Tuesday band night entertainment has been arranged at 4YA, no band being available owing to the Winter Show. Nevertheless, an excellent programme has been arranged. It is of the miscellaneous popular type. Mr. Bert Rawlinson has some of the ever-popular negro spirituals to sing, and Mr. F. C. Cooper's bass voice will be heard in "Galloping Dick" and two other solos. Other singers contributing will be Mrs. J. Marshall (mezzo-soprano) and Mrs. D. Carty (soprano). Pianoforte solos will be played by Miss Marjorie Watts, and xylophone solos by Mr. Andrew Fraser. Monologues will be contributed by the talented Miss Anita Winkel, piano accordion solos by Mr. E. Heeney, and recitations by Mr. Carl Moller.

A humorous address will be given by Pastor More on Tuesday.

Thursday evening concerts at 4YA are now well noted, and next week there will be one of the same type, full of bright and amusing items. Humorous items can be expected from Mr. Carl Moller and Miss Hilda Scurr, while the soloists have chosen songs from light comedies. These singers are Miss Betty Roberts, Miss Dorothy West, Mr. R. Wilson Brown, and Mr. J. B. McConnell. Popular song numbers will be contributed by the Dunedin Banjo Trio.

Excellent music will characterise Friday's programme. Miss Mollie Vickers and Miss Florence Summer, Mr. L. E. Dalley, and Mr. J. B. Macpherson are the vocalists. Humorous recitations will be given by Miss Sheila Neilson.

Friday's concert will be preceded by a talk on books by Mr. H. Greenwood, librarian at the Athenaeum.

Saturday's concert at 4YA will be of the usual high standard. The 4YA Harmonists will be heard in solos and concerted items, leading off with the old favourite, "Alice, Where Art Thou?" Cornet, violin and flute selections will be contributed, and there will be orchestral selections from the Empire Theatre.

TRANSATLANTIC TALK

REDUCTION OF RATES.

Radio telephone calls across the Atlantic increased 50 per cent. in the last two days, it was said at the offices of the American Telephone and Telegraph Company yesterday (says the "New York Times" of March 6). This followed a reduction of 10 dollars (£2) a minute in rates, which, on the minimum three-minute call, meant a saving of 30 dollars (£6) to the subscriber.

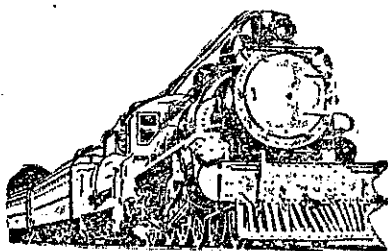
However, some doubt was expressed to whether the increase would be maintained. It was pointed out that extension of the service to new countries or any development which attracted public attention has caused in the past a stimulation in business which proved temporary.

In accordance with the custom, the A. T. and T. did not announce the actual number of calls made Sunday and yesterday. Traffic by the new service has increased fairly steadily since it started a year ago, but the average of business never reaches the levels it attains on the first few days after opening of new circuits.

Increase of Business.

There have not yet been many calls from Sweden to the United States since service to that country was opened a week ago, although there have been calls in the other direction. The increased business noted in the past two days was divided about equally among all circuits. Traffic is usually heaviest between here and London. There is also substantial business to Germany, and it was said that, although a circuit to Paris has not been opened, there is already an inquiry for this service.

Storms which damaged both aerial lines and submarine cables were said to have hindered the opening of service to Paris. Early this year, winds blew down many telephone wires between London and the French capital, and the waves damaged the Channel cables at their terminal points. Rebuilding of the Paris telephone system is another factor in the delay.



Cheap Trips by Train

Popular Excursions

Beginning on 31st May

Another cheap excursion period for safe and happy holidays by rail will begin on 31st May. Excursion tickets issued from 31st May to 4th June (inclusively) will be available for return until 16th June.

The more the people take advantage of these facilities for economical comfortable trips on their own trains, the more the Railway Department will be encouraged to increase the opportunities.

Extra trains—additional accommodation—on King's Birthday holiday, 4th June.

Travel by Rail for Safety.

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

NEWS FOR THE CHILDREN

UNCLES AND AUNTS AT 3YA

At the Radio Station 3YA, Jolly good uncles and aunts are they; There is Uncle Sam, whose voice so clear Rings strongly out to far and near. He always reads well chosen tales, And his good humour never fails. Then Uncle Jack comes once a week, All listeners like to hear him speak. There's Uncle Peter and Peterkin, And wise Big Brother too comes in— A favourite he, with one and all, From the older folk to the children small. And then the aunts from whose bright brains Many a hint each uncle gains. There is Pollyanna, and Mother Hubbard, (There's only wireless in her cupboard), And Auntie Pat, Aunt May, Aunt Vi, With Auntie Edna, who all try To make their little listeners say, "A jolly good station is 3YA!" And then each day there come big dozens, Merry bands of clever cousins, None of whom wriggle and say, "I can't", When asked to perform by any aunt; And whether to play, recite, or sing, They are all ready for everything! At times when the hour is nearly done, Aunts, uncles, and cousins join in fun: All gather round with "Hey, Diddle, Diddle," (Here's for a limerick, joke, or riddle). Then comes the closing lullaby, And each small listener heaves a sigh. On hearing the announcer say, "Our session is over for to-day."

KIDDIES' ENTERTAINERS

AT AUSTRALIAN STATIONS

The juveniles (and many grown-ups) will be interested in the following list of bed-time session entertainers at the various Australian stations.—
The "Hello Man," 2FC; "Uncle Rus," 2FC; "Jerry," 2FC; "Mike," 2FC; "Uncle Bas," 2BL; "Uncle Peter," 2BL; "Cousin Willa," 2BL; "Cousin Eric," 2BL; "Cousin Marjorie," 2BL; "Bringing," 2BL; "The Tiny Tots," 2BL; "Hector, the wireless bird," 2BL; "Uncle George," 2GB; "Uncle Dick," 2GB; "Uncle Victor," 2GB; "Little Willie," 2GB; "Bimbo," 2GB; "Aunt Flo," 2UV; "Wendy," 2KY; "Billy Bunny," 3LO; "Brother Bill," 3LO; "The Captain," 3LO; "Mary Mary," 3LO; "Mary Gumleaf," "Little Miss Kookaburra," 3LO; "Jimmy Jackaroo," 3AR; "Sammy Sandown," 3AR; "Tommy Towny," 3AR; "Uncle Mac," 3AR; "Yarra, the White Cockatoo," 3AR; "Darkie, the Black Kelpie Dog," 3AR; "Brer Rabbit," 3AR; "Blue Bell," 3AR; "The Farmyard Five," 3AR; "Uncle Jim," 4QG; "Uncle Ben," 4QG; "The Sandman," 4QG; "The Radio Family," 5CL; "The Bird Lady," 5CL; "Uncle Gideon," 5DN; "Uncle Daniel," 5DN; "Uncle Duffy," 6WF; "Uncle Henry," 6WF; "Uncle Bertie," 6WF; "Cousin Mac," 7ZL; "The Funny Man," 7ZL; "The Sunday Lady," 7ZL; "Uncle Hector," 7ZL.

A CAT'S FRIENDSHIP

A horse and cat belonging to the same owner were close friends, always sleeping together and feeding at the same time. Then one day the mare was sold to a neighbour, who lived nearly a mile away. For several days the cat was very unhappy, mewing piteously for its lost companion, and eventually it disappeared. On the following day the horse's new owner brought back the cat, which he had found in the feeding-box of his stable. After that the cat made regular visits to its companion at its new home.

Exide BATTERIES

MEAN DEPENDABILITY.
Installed at 2YA Wellington.

All sizes. From 9/- each.

EXIDE SERVICE STATION
70 Kent Terrace, WELLINGTON.

Children's Sessions for Next Week

AT 1 YA.
TUESDAY, June 5—Hello! Hello! Uncle George is here, and with him some little cousins playing the piano. And we are to have a couple of short talks from two important visitors to New Zealand—Dr. W. C. Poole and Sir Edward Sharpe.
WEDNESDAY—Uncle Tom with us again, full of jokes, stories and songs. Cousins will also give musical items.
THURSDAY—Peter Pan and Cinderella are sure to have some catches and discussions that will amuse the Radio Family. Listen for the three clever little sisters, Adele, Vena and Edna, who will also entertain you.
FRIDAY—What has Nod for us to-night? Mrs. Griffiths and her Rosebud Entertainers are giving us a short pantomime. Hurrah! Isn't that exciting?
SATURDAY—Cinderella has two new merry-makers in her glass slipper. Uncle Big and Cousin Small! What funny names, but oh, what funny people. Be prepared for a good laugh.
SUNDAY—Children's Song Service, with Uncle Leo in charge, and Cousins from Dominion Road Methodist Sunday School assisting.

AT 2YA.
MONDAY, June 4—"God Save the King!" Yes, children, the King's birthday was yesterday, but we are holding it to-day. Auntie Gwen and Uncle Jeff, with a party of Mrs. Thomas' pupils, will give you a royal hour.
TUESDAY—Puff-puff—hurrah! We're off again on the Radio Puff-puff with Big Brother Jack. Conductor Stewart drives the

train. We hope he brings us back again.
THURSDAY—Auntie Dot and a merry party of cousins from Northland. Choruses, songs and stories.
FRIDAY—Uncle Ernest and the mysteries of "Travelland." The Thorndon Normal School will join Uncle Ernest in his wanderings—choruses, part songs, duets, greetings.
SATURDAY—Uncle Toby and Auntie Dot. Wait and see—yes—till six o'clock on Saturday, June 9. The old clock will laugh for joy as the last strike resounds through the air. Greetings, violin and organ solos.

AT 3YA.
MONDAY, June 4—Listen-in to-night to Uncle Jack telling you stories about kings—and Cousins Freda and Florrie with their beautiful violin music.
WEDNESDAY—Mother Hubbard and Uncle Peter with fresh stories and songs, and a little playlet by "The Three Old Maids of Lee." Watch out to-night!
THURSDAY—Chuckie and Aunt Pat starting the "Alice in Wonderland" stories and songs, and the merry little folk from the Philpstown School pleasing you all.
FRIDAY—Big Brother and "The Captain" again to-night. So clear the decks for action, and listen for the Health Game. More prize-winners on to-night, so don't miss anything.
SATURDAY—Uncle Sam and Aunt May cheering your hearts and delighting your ears with story and song.
SUNDAY—Our Song Service to-night—Uncle Sam is in charge, and our friends from Tennyson Street Congregational Sunday School will provide the singing.

AT 4YA.
TUESDAY, June 5—Do you know anything about tails? What use are they anyway? The cow's tail is a nice fly-swatter, of course, but why should a certain little monkey have a tail when all it uses it for is to climb up it? Did you ever hear of a monkey that eats its own tail? Suppose you listen to Big Brother Bill to-night, at 4YA. He's going to tell why things have tails; it will be a nice long tale to listen to. And there will be a lot of other nice things to hear as well. What about it? And there will be letters and birthdays! You listen, and see.

FRIDAY—Have you heard the Happy Folks' Anthem? No? Well, here it is:—
The more we laugh together,
together, together,
The more we laugh together,
the merrier we'll be.
For you'll tell me your jokes,
And I'll tell you my jokes,
The more we laugh together
the merrier we'll be.

The carrier wave will bring you that from 4YA about one minute past six. It will bring something else to-night—songs and recitations and music. Of course. And an exciting travel over the earth to look at the world's quaint children. How would you like to be held head downwards over a smoky fire because mother and father are daft enough to believe in bogies? Aren't you lucky? Listen to Big Brother Bill to-night and you'll be luckier still. Aunt Sheila tells stunner stories, too. And there will be all the other happy things that make 60 minutes go like one.

HOW A CLOCK WORKS

TELLING TIME BY THE WEATHER.

The search for the secret of perpetual motion still goes on, and again we have someone who believes he has found it.

This is a young engineer of Neuchâtel, Switzerland. He has invented a clock which he thinks will go for ten thousand years without being wound up or repaired. It has already been going for some months. The motive power is supplied by a combination of the barometer and the thermometer as temperature rises and falls.

Of course, this is no more perpetual motion than a clock worked by the rise and fall of the tides would be. Still, it is a very ingenious contrivance. The idea of getting power from a barometer is not new. What is new, is a clock so delicate that power so small can drive it.

THE WONDERFUL TELEPHONE BUSINESS

WHAT IT MEANS IN LONDON.

Over 553 million local calls were made last year by London telephone subscribers, while inland trunk calls from London averaged 16,000 a day.

London has now 565,000 telephones. Nearly 360,000 miles of telephone wires were added last year, making nearly two and a half million miles! The telephone directories issued weighed 1700 tons and contained nearly 300,000 entries.

The first London automatic exchange was opened last year and 72 more have been designed. Over 700 of the new bright-red telephone kiosks have been set up.

A BIG BED AND A HARD-BOILED WATCH

Here is a true story of a native boy and his big brass bedstead, and of how he boiled an egg. It is told by Mr. Clifford W. Collinson, who has a long lease of the Island of Sambo, in the Solomon Protectorate group, in the South Seas.

A native boy had a passionate desire for a brass bedstead. "When the bedstead arrived," Mr. Collinson said, "it was too large to go in the house and the boy placed the bedstead on an eligible site and built his house over it."

"To this day," he added, "he sleeps under the bedstead to avoid spoiling it."

Lads of ten or twelve did all the house-work at Mr. Collinson's island home. "One morning," he said, "I told my boy to boil me an egg for breakfast, and I lent him my watch to time it. Ten minutes went by and nothing happened."

"I went into the kitchen and found the boy peering into the saucepan with a very worried expression. The silly fellow had put the watch into the pan along with the egg and hard-boiled them both."

THE EXPLORER.

Elizabeth Rymyntrude Ryre. One morning climbed out of her chryse. (She was sixteen months old. At the time, I am told), And fell with a bump, which raised such a lump, On her fat little cheek, that it stayed for a week, But Elizabeth Rymyntrude Ryre Didn't cry!

2YA'S CHILDREN'S SESSIONS

MEETING OF ADVISORY COMMITTEE

ARRANGEMENTS FOR KING'S BIRTHDAY.

A MEETING of the 2YA Children's Session Advisory Committee was held at the studio on Tuesday evening. The Rev. Ernest Weeks presided, and there were present:—Mr. W. E. Howe (Sunday School Union), Rev. Ernest Weeks, Miss E. M. Sealy (Girl Guides), Miss Thornton (Training College), Mr. Byron Brown, Mr. E. Walpole, Mr. Greenberg (Y.M.C.A.), Mrs. Pope (Y.W.C.A.), Mrs. H. Smith (National Council of Women), Mr. Mabin (Boy Scouts), and official representatives of the Radio Broadcasting Company, Limited. An apology for unavoidable absence was received from Brother Phelan.

Miss Vautier, organiser for the children's sessions, gave an outline of the programme arranged for Empire Day, in which the Boy Scouts and Girl Guides were to play a prominent part,

and in the course of which it was hoped to broadcast a message of patriotic significance to the young people of the Dominion.

It was reported that arrangements were also being made for an appropriate programme on the occasion of the King's Birthday, the observance of which will take place on June 4.

It was decided to solicit the co-operation of the Sunday School Union in the providing of choirs for the studio Sunday evening services. The chairman explained that this was at present being done by the station, but he felt that it would be a very nice thing were the Sunday School Union to undertake this part of the work as an extension of its community service. A choir of not more than twenty was required each Sunday evening, for a service lasting from 6 to about 6.45 o'clock, and the committee's idea was that a representative of the Sunday School Union, being closely in touch with the various Sunday Schools, might undertake to arrange with the respective superintendents for a systematised rota of attendance.

Mr. W. E. Howe, the union's representative on the committee, said that while his own hands were so full as to make it impossible for him to undertake this additional work, he regarded the idea as a good one, and would have

pleasure in submitting the committee's resolution to the union.

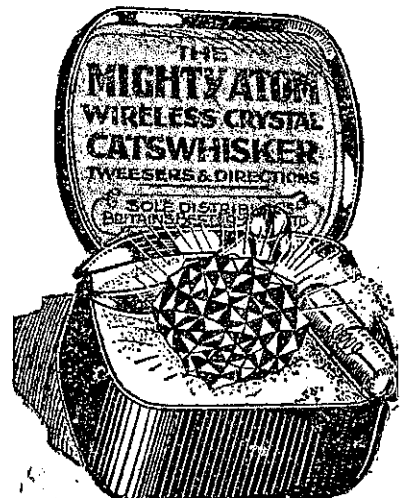
A general discussion took place on the character and influence of the programmes generally, and several members spoke in terms of warm appreciation of the entertaining character and high standard of 2YA's children's sessions.

Several useful suggestions for future programmes were made and recorded, and on the motion of the chairman, it was unanimously resolved to place on record the committee's thanks and appreciation of the splendid services rendered by Mr. Byron Brown in his role of "Uncle Sandy" at 2YA.

EXPRESSING SIGNAL STRENGTH.

AS a means of expressing the strength of received signals according to the judgment of the listener, the following have been adopted:—

- R1 Signals unreadable.
- R2 Readable with difficulty.
- R3 Weak, but readable.
- R4 Readable.
- R5 Easily readable.
- R6 Fairly strong.
- R7 Strong.
- R8 Very strong.
- R9 Loudspeaker strength.
- R8 is often described as "phones on the table" strength.



The Mighty Atom Crystal

Complete with tweezers and 1/2 Catwhisker in Sealed Box
Write for FORMO Price List.

A. E. STRANGE

404 Worcester Street, CHRISTCHURCH
Wholesale and Retail.

Listeners Discuss A Reception Problem

Diverse Views as to Wandering Waves and Land Absorption

The Winning Paper.

N. Cole-Baker, Port Waikato, wrote: The factors influencing conditions described, are usually explained as the effect of reflected waves and direct waves interfering. Beyond a certain distance, usually about fifty miles, from a station, the waves reflected at a sharp angle from the atmosphere, interfere with those travelling horizontally, causing poor reception. Further off, the ground waves become weaker, and the reflected waves arrive at a lower angle, so that there is no interference, and any alteration of the angle of reflection has less effect on reception. The strength of reception is then dependent only on the power of the receiver, and there is little or no distortion. The result is that there are three zones surrounding a transmitting station—an inner zone of perfect direct reception, up to fifty or sixty miles, a zone of poor reception, extending up to five hundred or more miles, but varying in width with the nature of the country and other unexplained causes. Lastly, an outer range of good reception, for sufficiently sensitive receivers. These zones, of course, only exist at night, when the phenomenon of wave-reflection comes into play. In the daytime the first, or direct reception zone, is extended somewhat, and the others cease to exist.

In the case under consideration, the listener is situated within the area of poor reception of 2YA, but in the area of good distant reception of 3YA. It is well-known that 2YA is consistently well received in Christchurch, so that the staff of 3YA have no difficulty in picking up the music from 2YA perfectly, and putting it on the air again for the benefit of their listeners. Had our listener lived near Christchurch, he would have been able to hear both stations equally well, and the same might apply to the far north or south of New Zealand.

IN our issue of three weeks back we cited the experience of a correspondent in Havelock North, Hawke's Bay, who wrote: "Can you explain the following? On Sunday, April 22, I tuned-in band programme from 2YA, and fading and mushiness was so bad, I gave it up and tuned-in 3YA, who were rebroadcasting 2YA. From that station the programme came in perfectly, with no sign of fading. I repeated the process continually, with the same result. What's the answer?"

To stimulate interest in this question we offered a prize of 10s. 6d. for the best answer or explanation to the question put, which, for exactness, was stated thus:—

What factors influence the following phenomena: "Perfect reception from 3YA of a rebroadcast by 2YA, when direct reception of 2YA is affected by fading and mushiness."

A NUMBER of interesting papers were received from a wide circle of readers. In our opinion the best grip of the subject and the most likely explanation of the reception phenomena reported, is revealed by Mr. N. Cole-Baker, of Port Waikato, to whom is awarded the prize of half a guinea. Some of the other papers submitted devoted more attention to the absorption of the radio waves by the nature of the land traversed, while others indicate that superior reception would have been effected by tuning-down the receiving set. Our thanks are extended to correspondents for the interest taken in this reception problem.

Better Reception Oversea.

J.S.C. (Nelson) First of all I should say that reception in Christchurch of 2YA would be better than in Hawke's Bay, on account of Christchurch being practically in a direct line across water from 2YA, whereas reception of 2YA in Hawke's Bay would more or less be liable to interference from hills, mountains, etc., not forgetting electric power plants, and high power transmission lines.

If this is the case, I should say that reception of 3YA in Hawke's Bay would be better than 2YA direct, as Christchurch and Hawke's Bay are more or less in a straight line across water, or very near to it, and I find that reception across water is far superior to reception across land, irrespective of distance. For instance, I live in Nelson, and 1YA is straight across the water from here, and I find reception from 1YA good both night and day; on the other hand, there is nothing but hills, mountains, and power plants and lines separating us here from 2YA, 3YA, and 4YA, and they come in patchy. I can only blame the nature of the country and surroundings for the trouble.

Influence of Hills.

P. Thurston (Blenheim): I think that the answer to your competition

may be: He may be living near some hills, where their direction affects the waves to a certain extent, when they are broadcast from 2YA. Their direction may not affect 3YA in the same manner as it does 2YA. The direction of his aerial will have an effect on them also.

The reasons for my answer are:—My place is in Blenheim, and I can receive 2YA best of all the stations. Then in Rai Valley, where it is very hilly, 2YA can hardly be heard, but 1YA and 3YA come in far the best.

Reduce the Voltage.

Frank Murdoch (Christchurch): I find 2YA is too powerful for ordinary reception, and when I use 10 volts for detector, and 30 volts for amplifier, on a 5-valve set, I get perfect reception, with no fading or "mushiness." Detuning is bad tuning, but reducing the B voltage and manipulating the rheostats, at the same time keeping the variable condensers on the correct wave reading, gives clear reception, and perfect tuning. Usually I have 100 volts B power, and in Christchurch this gives fairly broad tuning of 2YA, which is not in my opinion productive of continued clear reception. Mr. X— is near 1YA, which would give broad tuning. The same applies to 2YA, but

3YA being fairly distant requires sharp tuning and consequently clear, steady reception. I do not consider local interference as likely, because this has probably been well attended to before making inquiries.

Many listeners are too ready to blame the transmitter and take the easy course of tuning-in another station. In one evening I have heard several receivers bringing in 2YA—some perfectly and the others in various stages of mushiness. This latter I find is generally remedied by reducing the receiving power, and at other times cleaning and generally overlooking the set; testing C battery, etc., is all that is required.

Situation is the Factor.

T. A. Vincent (Masterton): Havelock North would be about 150 miles air line from 2YA. Leading authorities have concluded that, at broadcast frequencies, fading is considerably more noticeable at distances between 100 and 200 miles from the transmitter than at distances greater than or less than this. This may account for 3YA's transmission being received more consistently by your correspondent, as Christchurch would be about 300 miles, air line, from him, and, consequently, would be outside the most affected area.

Is the Wave-length Responsible.

J. A. Lynn (Hastings): This fading may result from the difference in wave-length of the two stations. Thus while fading is bad on 420 metres in the Havelock district, the 306-metre waves might be entirely unaffected. However, as 2YA consistently fades in this district while 3YA is comparatively steady another solution suggests itself. The waves from 2YA, in order to reach Havelock, have to pass over bushy and mountainous country, whereas to reach 3YA they pass over sea. Therefore distortion of the land-wave in the first case would result. This would make it arrive at the receiver out of phase with the other portion of the wave, which travelled upward when leaving the transmitter, and was reflected down to the receiver, thus causing fading. The absence of fading from 3YA at the same time might be caused, either as explained above from the difference in wave-length, or by the fact that 3YA's waves would pass for the greater distance over sea, and over land which is geographically different from that in 2YA's path.

Perfect Transmission.

W.J.B. Wairoa, writes: Perfect reception from 3YA must surely prove perfect transmission by 2YA, therefore the fault must be either in the receiver or in conditions between the transmitting station and the receiver. Fading may possibly be due to some atmospheric condition or pressure diverting the waves from their course anywhere between the transmitting station and the receiver. As for mushiness: I think the cause may be looked for in the grid leak. Taking into consideration the difference in the transmitting power of the two stations, and also (as far as the North Island is concerned) the distance, then a grid leak of a much lower resistance is necessary to get good reception from 2YA, than would be needed to get an equal quality reception from 3YA, as a high-resistance grid leak means easy oscillation.

Our Short Wave Corner

MR. F. W. SELLENS (Northlands) writes:—

I was glad to see reports in the "Short-wave Corner" from listeners in other districts.

Saturday, May 19.

3LO was transmitting early in the morning. They were fairly good, but faded badly at times. Gramophone records and speeches were heard. 5SW were putting out talk each time I "went over" to them.

At 1.30 p.m. PCJJ was tuned in, when they were received at fair phone strength, but announcements were not wholly intelligible.

A special programme for Australian and New Zealand listeners commenced at 3.35 p.m. with the (British) National Anthem. Then Australia and New Zealand was called, and it was announced that this special transmission would be from 4 till 7, Greenwich mean time, asking for reports to be sent to their Australian office at Sydney, giving their postal address.

The first record was by a New Zealand composer, Mr. David S. Sharp, Dunedin, "Caring For the Rose." The music for this was sent to Australia and a record made there and sent on to Holland. The managers of the various branches and agencies throughout Australia and New Zealand, also a few listeners, including myself, were called. The transmission continued till 6.37 p.m., the National Anthem being sung again just prior to closing down.

Reception was very weak at first and attained its maximum volume at from about 3 p.m. till 5 p.m., when it was good speaker; after this it decreased, till on closing down the closing announcement was barely readable.

Reports received at the local office of Messrs. Philips Lamps, Ltd., were all about the same as regards volume, etc. It was well received all over New Zealand during the period I mentioned as being the loudest.

2XAF were also heard. As both these stations are supposed to be on 31.4 metres, one must have altered their wave as they could be separated easily. The Palmolive Party supplied the programme. Reception was weak, but improved towards closing time at 2.30 p.m.

2RG, Goulburn, was heard testing at 5.10 p.m.

JIBB (Japan), on about 30 metres, were relaying JOAK. Talk and instrumental music was heard. RFM came in very well. A violin solo was especially good.

This was a day for variety. England, Holland, America, Russia, Japan, and Australia (two stations), not forgetting 2YA, New Zealand.

Sunday, May 20.

2XAF was spoilt by a morse station. Dance music was relayed from the Hotel Orchestra, Albany, New York. They signed off at midnight, Eastern

daylight saving time (3.30 p.m., New Zealand).

Several amateurs were heard, including 3AV and 2BO, the latter putting on quite a programme of gramophone records.

Monday, May 21.

3LO, through 3ME, came through at good volume from 6 a.m., but faded badly; there appeared to be two sorts of fading, one short and jerky, and a long fade.

RFM was heard during the evening.

Tuesday, May 22.

5SW did not start till 6.30 a.m., when "Big Ben" was heard very faintly. The talk following was not intelligible. At 7 a.m. volume was very little better, but at 7.25 a.m. a big improvement was noticed, an organ solo coming through at good 'phone strength.

At 7.10 p.m. a station was picked up on about 31.5 metres (same setting as PCJJ and 2XAF). Music was heard, but not any announcement, fading was very bad.

A station signing 1—, Brisbane, was also weak, and fading badly. Wave-length about 32 metres. RFM, as usual, had a lot of talk, and not any music while I was listening.

Wednesday, May 23.

PCJJ was tuned in at 5 a.m., and gave fair speaker strength, with 2 stages of audio. A few names of listeners in Australia, New Zealand (including myself), and Canada, thanking them for reports, also inviting further reports. The following particulars are requested:—

1. Is there any difference in reception since the station's transfer from Eindhoven?
2. Is fading experienced, and, if so, at what time?
3. What are the signal strength and general qualities of the transmissions?
4. Is the wave-length constant, and state general reception conditions?
5. At what time are strongest signals received?

This is often asked for over the air, and was detailed in a letter received from them this week. The programme concluded at 1.22 a.m., with the Dutch National Anthem.

At 5.30 a.m. a German station was heard on about 45.5 metres (probably AFK). "Achtung" was heard several times. Reception, fair 'phone. Another foreigner was picked up on about 15 metres, but was too weak to identify, except that it was foreign talk.

At 6.30 a.m., "Big Ben" was heard. The announcement, although fairly loud, was too unsteady to understand. At 7.30 they were more steady, and louder, when a talk was on.

2BO put on a gramophone programme during the evening on about 48 metres.

Thursday, May 24.

3LO, on 32 metres, came through at wonderful strength, and modulation early in the morning. 5SW was only just audible at 6.30 a.m., but was much better at 7 a.m. This station attains better volume later now than it did a while ago, caused, I suppose, by the days getting longer on that side of the world, and shorter here. During the evening a station on 28.5 metres was heard, but I did not hear a call. Was very weak.

Friday, May 25.

PCJJ was fair speaker, when tuned in at 5.15 a.m., but on account of the high winds, the aerial was swinging, and reception jerky.

5SW at 5.30 a.m. was too weak to be readable; it did not reach fair 'phone strength much before 7 a.m. A strong carrier was picked up early in the evening on about 28.5 metres, and piano items were heard, then the call, 2FC, followed by a few minutes of the bed-time session. Reception was very weak, fading right out at times, and lost altogether soon after the stories started.

RFM was heard later, having a few words to say to all and sundry, as usual.

Auckland S.W. Reception.

Mr. S. Saunders, who has removed temporarily to Auckland, writes: I rigged up my S.W. set on May 20, and have received the following stations:—

May 20.—2HIF, Balmain, New South Wales, good modulation, and very loud. Records also 2XAF, WGY, GEC. Dance orchestra items by "Seleramano" and his De Witzlers' Hotel Orchestra. This is the Crystal Hotel "She's a Great, Sweet Girl" also piano solos and organ recital from Buffalo Theatre. (Closed down, 3.30, New Zealand time. This transmission came through very loud. 3AR, Melbourne, records.

May 22.—I received 5SW, Chelmsford. Organ music and choir, also lecture, medium strength. Also got cornet solo, "Killarney," very faint, 6 p.m. till 6.30 p.m., about 35 metres.

May 23.—PCJJ, Holland, came over, good strength, 31.4 metres. Closed down just after 7.30, New Zealand time. I also got 5SW, Chelmsford, but they were hard to hold in. I notice a lot of the wireless enthusiasts have got fixed to their aerials up there a copper cistern ball.

BODY CAPACITY

A correspondent recently outlined his difficulties with body capacity, and Mr. F. W. Sellens has kindly supplied the following from S. Gernsback's "Radio Encyclopedia," which is the practice he follows himself:—

"Body Capacity.—The effect of the human body when tuning a radio receiving set. The hand, when placed on or near the controls, very often throws the receiver out of balance with the incoming signals. In the case of very sharp tuning (as in short waves), this effect is more in evidence, and is likely to cause howls, due to self-oscillation. The howling is due to the production of an audible beat

frequency in the system, caused by the combination of the local oscillations with the incoming signal oscillations. The remedy may be to shield the panel with metal foil, or, in some cases, merely to alter the direction of the leads from the tuning condenser. The experienced operator seldom pays much attention to the phenomena, as a little practice enables the listener to compensate for the effect. To make this more clear, if, when tuning the set, the withdrawal of the hand from the dial detunes the set, or throws it out of balance, it is due to the fact that the hand has acted as a certain amount of capacity in the circuit, and naturally its withdrawal is equivalent to a change in the condenser setting. A simple system is to turn the condenser beyond the point of maximum volume, then when the hand is withdrawn, the capacity will drop to its proper value. This can be mastered very readily. If the tuning condenser is connected across the secondary, i.e., one side to the grid, and the other to the grid return, the stator plates of the condenser should be connected to the grid of the tube. If metal foil or thin copper sheeting is used for shielding, it should be connected to the ground part of the set.

The tendency of the human body is to insert an arbitrary capacity in the circuit. The phenomena are especially noted where maximum volume is obtained only by very critical control, close to the oscillating point, in which case the circuit may be thrown out of resonance.

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