

# THE RADIO RECORD

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MADAME GOWER BURNS.  
Sarony photo.

## "In a Persian Garden"

### Outstanding Broadcast by 3YA on March 8

**O**N Thursday, March 8th, "In a Persian Garden" will be broadcast from 3YA by the Madame Gower-Burns Grand Opera Quartette. Complete as it will be with full orchestral accompaniment, this entertainment will be one of the important broadcasting events of the year.

Set to music pervading which there seems to be the atmosphere of the East, the cryptic verses in which Omar Khayyam puts forth his philosophy of life form the subject of a song cycle which has made the name of Liza Lehmann famous.

**W**HEN song cycles were very new Madame Gower-Burns was one of the first to bring them before the New Zealand public. Certainly, in Christchurch, she was the first to produce "In a Persian Garden." Watkin Mills, the great English singer, on his arrival in Christchurch, was greatly surprised to find that something he thought would be altogether new for New Zealand had already been produced.

**S**INCE then Madame Gower-Burns has given this song-cycle several times for the benefit of various musical and other organisations in the Cathedral City, and in other towns. It is very fitting, therefore, that she should be the first in New Zealand to produce for radio the complete song-cycle of "In a Persian Garden." In addition, the orchestral accompaniment throughout will be quite a new thing in New Zealand. The leader of the orchestra will be Mr. Harold Beck, and the pianist will be Miss Aileen Warren, who is well known as such a sympathetic accompanist.

**I**T is about eight hundred years since Omar Khayyam—that is, Omar the tent-maker, the astronomer, poet of Persia—lived and died. His fame rests upon his Rubaiyat, the collection of quatrains or stanzas of four lines each, wherein with great beauty and wealth of imagination he has set forth his philosophy of life.

The time of Omar—the time in which he lived, and loved, and wrote and wined—was contemporaneous with that of the subjugation of England by the Normans. He was a scientist, an astronomer, and a metaphysician, and there are works of his on Algebra and Euclid still extant. Yet this great thinker's message in the Rubaiyat is on the uselessness of thinking.

The very meagre knowledge we have of Omar's life has descended to us in the Testament of one of his fellow students, a man who rose to be Vizier to two successive Sultans of Persia. In fulfilment of a school-boy promise to Omar, the Vizier would have bestowed upon him titles and offices, but these were declined in favour of leisure and means to win and distribute knowledge of all kinds, especially that of astronomy. A generous pension from the royal treasury was settled upon the poet, who, possibly before being thus raised to independence had to practise his trade of tent-making.



MR. HAROLD BECK,  
Conductor of Christchurch Broadcasting Trio.  
Webb Photo.



MR. H. PRESCOTT.  
—Sarony photo.



MR. BERNARD RENNELL.  
Webb Photo.

The remarkable unpopularity of Omar in his own country is probably the cause of his scant transmission abroad, and the MSS. of his poems, mutilated beyond the average casualties of Oriental transcription, are extremely rare, even in the East. Omar died in 1123.

The Rubaiyat constitute no formal poem, they are not even necessarily connected; yet they contain the poet's estimate of the sum of existence, the doctrine of an amiable Epicurean philosophy Omar had sought and found not:—

*"Myself when young did eagerly frequent  
Doctor and saint and heard great argument,  
About it and about; but evermore  
Came out by that same door where in I went."*

Seeing thus, only this world, and the material things in it, he bids us enjoy ourselves while we may:—

*"Come fill the cup, and in the fire of spring  
Your winter garment of repentance fling;  
The bird of time has but a little way  
To fly, and lo! the bird is on the wing."*

The genius of Edward Fitzgerald made Omar known to the western world seventy years ago in a free translation which enhances the beauty of the original, and, indeed, even adds successfully a quatrain here and there which Omar did not write. Other translations have appeared, but Fitzgerald's is still first. From it Liza Lehmann selected those stanzas which she has set to music.

This musical setting of portion of the Rubaiyat aroused interest immediately upon its appearance. It is so written as to employ all the resources of a mixed quartette of the highest rank in both solo and concerted work, while the accompaniment is characteristic piano music yet sympathetic and original in spite of its difficulty. Indeed, the technical difficulty of the accompaniment has often been an obstacle to the successful presentation of the work.



MISS JESSIE KING, Contralto.  
Webb Photo.

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

**U** HE English, not to be outdone by the pushful Yanks, are now on the New Zealand market with electric gramophone pick-ups. This device enables the owner of a gramophone and a radio set to link them together so that the gramophone music is passed through the audio-frequency stages of the radio set, which amplify them and astonishingly improve the tone of reproduction. Radio traders are now stocking these devices as a good demand has set in for them. A Wellington radio trader recently gave me a demonstration of an English electric gramophone pick-up, which certainly proved eminently pleasing. The last audio valve had a B battery potential of 135 volts, and no matter how great the volume (and it was very considerable) there was no tendency to "chatter" on the part of the pick-up, and I failed to detect any trace of needle-scratch. A smooth-working volume control enabled one to vary the volume from zero until it was more than ample for a large room. A commendable feature, also, was that the pick-up did not bear too heavily on the gramophone record—a fault not unknown in gramophone pick-ups, which slows the record unduly. The connecting cords are adequately long, and the contrivance is well finished and of good design. I was rather surprised to learn that it is being retailed at as low as \$4 10s. complete.

## A GOOD MILLIAMETER.

**A** USEFUL instrument for keeping a constant check on the B battery consumption is a milliammeter, and a check on the stability of the valves. While there are some quite serviceable moderate-priced milliammeters on the market, it is advisable to purchase the very best if one's pocket will admit of so doing. The instrument should be placed in the negative lead to the B battery. A high-class American milliammeter is on sale, ranging from zero to 50 milliamperes, which can be safely assessed as the "last word" in these devices. A trader informs me that it is selling at 37s. 6d. retail.

## PEDESTAL PORCELAIN INSULATOR.

**W**HERE there are high winds the aerial lead-in is apt to tug and strain on the small tube insulator which gives entrance to the house. I have

seen several of these tubes broken by this undue strain. A useful article designed to take the strain from the lead-in tube is now on sale. It is a porcelain pedestal insulator, strong and with a highly glazed surface, which prevents the collection of moisture. It can be screwed over the lead-in tube, and being hollow will permit the lead-in to be run through it to the lead-in tube. Where it is necessary to guide the lead-in away from contact with a building the pedestal insulator is particularly serviceable. The line is marketed at 3s. 6d. retail.

## HANDY REEL AERIALS.

**O**NE of the bugbears of using a portable receiving set with a good aerial is the transport of the aerial itself. We know what a nuisance it is to carry an unsightly coil of copper wire, which with characteristic malignity develops kinks and is unwieldy. All this can now be avoided by a neat little contrivance in the form of a "reel aerial" which lately came on the market. A radio trader demonstrated the handiness of the "reel aerial" the other day. In outward appearance it may be described as resembling a surveyor's small metallic tape, which can be wound up into a container in the conventional way. The metal container is small enough to fit into a coat pocket, as it is only about half an inch thick and scarcely larger in disc than a motor-car clock. The aerial is thin, but substantial copper tape, brightly tinned, and about a quarter of an inch wide, totalling 100 feet in length. It winds up with a small handle on the side of the container. This line is retailing at the modest figure of 22s. 6d.

## ADVICE TO RETAILERS.

**A**N American radio business man advises radio retailers when considering the purchase of goods to bear these points in mind:—

1. Is it an item that will increase in stock.
  2. Is it so much better than some present line that a present line should be discontinued to make room for it?
  3. Is it in public demand or will the demand have to be created?
  4. Will it be a permanent item, or "here-to-day, gone-to-morrow"?
  5. How is it priced in comparison to competitive lines?
- "Buy strictly on these lines," he says, "and do not hesitate to say 'No' if it won't stand the test."

## ENGLISH TRANSFORMERS.

**T**HE Americans hit out boldly on improved audio transformer design a few years ago, and there was sound reason for their increasing the size of audio transformers to create better tone in broadcast reproduction. A radio dealer drew my attention last week to an English audio transformer which for size, design, and workmanship leaves nothing to be desired. Its guaranteed characteristics, too, are notable, namely, a flat amplification "curve" over a range of from 200 to 3000 frequencies, and a primary inductance of 124 henries. These transformers are standardised with a ratio of a 3 to 1 step-up. To the uninitiated it may be explained with regard to the amplification curve that imperfectly designed transformers amplify well on some notes, but fall away badly on others. It is the aim of high-class transformer designers to maintain the amount of amplification over as wide a band of frequencies (or notes) as possible. In these transformers the uniformity of amplification is guaranteed to extend over a range which is quite exceptional. The retail price of these transformers is 35s., a figure which, considering the quality of the line, is most reasonable.

## ENGLISH CONDENSERS DE LUXE.

**T**HE British radio component manufacturers were caught napping in the New Zealand market when the Americans took it by storm when the popularity of broadcasting commenced in this country. Those who advocated trade within the Empire shook their heads regretfully when they saw the shoddy stuff shipped to New Zealand by British manufacturers. I believe some of this is still on the shelves in some radio houses. It "stuck" badly, and slaughtering prices failed to clear it all out. It is, therefore, a subject for gratification that one now sees some remarkably fine components on sale from England. The other day a trader showed me a truly superb line of British variable condensers—veritable Rolls-Royce goods—which are of outstanding merit in design, material, and workmanship. They are fitted with thrust ball-bearings, a 60 to 1 milled friction vernier, unaffected by wear, and with a positive grip which renders slipping or back-lash out of the question. They are of the straight-line frequency type, with "shaved" plates, and are neatly "pigtailed"—a method of maintaining a

circuit, which I have always preferred to the average friction method. These condensers are marketed in two capacities, .0003 mfd. and .0005 mfd. They are sold complete with dials at 22s. 6d. retail. I cannot pass these condensers without mentioning their handsome, masterpiece, built-like-a-watch finish.

## METALLIC RECTIFIER.

**A**N extremely neat little device in the form of a metallic disc rectifier was shown to me the other day. It seems astonishing that scientists have discovered a method of changing the structure of metals which permits electrical current to circulate, or flow, in only one direction, thus enabling it to convert alternating current into direct current, without the use of the ordinary battery-charger rectifying valve, or without the use of liquid acid rectifiers. The metallic rectifier shown to me has a capacity of 1 ampere, and is, therefore, particularly adapted for trickle charging "A" batteries. It, of course, must be used in conjunction with a transformer. The dealer informed me that he expects soon to have these metallic rectifiers in stock with a capacity of 2½ amperes, so that they can be employed for charging "A" batteries in the ordinary way. The metallic rectifier is permanent, when properly handled, and even after lengthy operation is warmth is scarcely noticeable to the bare hand. The device is selling retail at 32s. 6d.

## WHEN A SET GOES "DEAD."

**R**ADIO service men sometimes encounter peculiar instances when receiving sets go "dead," and the cause is somewhat difficult to detect. Whenever the signals cut out or the receiving set goes dead, at a certain place or at various places on the dial after it is rotated, it is probably because the plates of one or more of the tuning condensers are touching at these particular spots. This may be only a loose connection, which sometimes shows up on a very strong signal. The way to remedy this is to find the exact spot where the plates are touching and which plates they are—usually one of the rotary plates—and then with a small piece of sharpened wood or some insulating material bend the plate, so that it is in its normal position in the centre between two stator plates.

## VALVE TESTING.

**I**T is always preferable to test valves with a regular valve tester instead of in the set.

A defective valve inserted in a set will sometimes cause considerable damage, as it will short circuit and possibly burn out coils or resistances. Valve testers can be purchased from about \$3 up, and many American dealers have found it to their advantage to maintain and advertise a free testing service for any valve brought in. This leads to more business, for the public is still under the impression that if a valve lights it is O.K. This, of course, is not true, as a valve may light and still be defective. By maintaining this testing service the dealer, of course, makes sales on valves to replace defective ones, as well as other accessories.

One of the first things you should do if a customer is complaining about valves is to request that the valves be brought in for testing, and a regular valve tester is essential for this work.

## A CRUCIBLE YEAR.

**I**N New Zealand, as in America, this year is generally looked upon as the "crucible year." Retailers and wholesalers alike, who cannot make the grade, are going to fall by the wayside in greater numbers than ever before.

Unfortunately for those who go. Fine for those who remain. The mortalities may be high, but it will make more comfortable living for the rest of us. There is money to be made in the radio business, and much money will be made this year and in the future. Those who make the grade will prosper. Dealers, keep that in mind.

There have already been some obituaries this summer, and some wholesalers have been left lamenting at the meetings of creditors.

**S**OMETIMES the top of a radio cabinet arrives from overseas with an ugly stain or signs of chafing, and the appearance of the set is somewhat spoilt. Sometimes, also, the hot ashes from a cigarette or pipe fall on the top of a radio cabinet, and slightly char the polished surface. Any of these marks can be removed with wood alcohol and a clean cloth. A drop of oil should be applied immediately to aid in the restoration of a glassy surface, and to prevent the cloth from sticking.

## On Short-wave

### LONDON CALLING

Mr. F. W. Sellens writes:

Recent advice from Philips gives their transmission from PCJJ as follows:—Wednesday and Fridays 3.30 a.m. till 7.00 a.m. and Sundays 2.30 a.m. till 6.30 a.m., New Zealand summer time. I understand the station AFK, on 38 metres, is at Nauen, Germany, being one of quite a number in that place. A reader of these weekly notes has asked me to state the volume that I receive the various stations. This, of course, varies quite a lot. When loud speaker reception is mentioned, it is seldom the volume one expects from stations on the broadcast band, but often loud enough to understand talk twenty feet away. Again, it is often difficult to get a station's call, the strength of signal received being so weak, or, perhaps, modulation being bad. RFN, on their new wavelength of 70

metres, are not being received as well as on 50 metres.

On Saturday afternoon, February 18, KDKA and 2XAD were both heard, but both fairly weak.

During the evening RFN were heard to announce their wavelength as 70 metres. The amateurs 2XW and 2BH were also heard.

KDKA concluded their musical programme on Sunday at 4.30 p.m., and then relayed from the Westinghouse Company's station at Montreal, Quebec, quite a number of personal messages from friends to people in distant places in the north, where mails are slow in reaching their destination, Alaska, Labrador, Arctic Circle being mentioned. Members of the Royal North-West Mounted Police and of the Air Force, among others, being called and given messages from their friends. These greetings were still being sent at 6.25 p.m.

Volume was good loudspeaker strength, but not so clear as it might be.

2XAF were broadcasting a musical programme.

4NW, Brisbane, was heard testing during the evening.

On Monday morning 3LO, on 32 metres, commenced at 7 a.m. as usual.

At about 10.45 p.m., on about 30.5 metres, a station, which I think was a Jap., was transmitting the same class of music as we have been hearing from JHBB recently. A call was given but could not understand what was said.

RFN was heard on 70 metres, and 2BL was better than usual on a harmonic of about 44 metres.

Music is often heard on the short-waves, which, after waiting for the call, turns out to be a harmonic of a broadcast station.

ANE, on 31.86 metres, was tuned in at 6 a.m. on Tuesday morning. A band was playing "Come All Ye Faithful," and was received at good speaker strength.

The 40-metre stations started at 6.15 a.m. with "Here is station —," then followed what sounded like some counting, but nothing was intelligible. AFK on 38 metres was heard on the speaker. It was all foreign talk while I was listening.

RFN was "on the air" during the evening.

On Wednesday morning 5SW was heard repeating a report being received

from 2XAD. The latter station was too weak to hear direct. I was told that some interesting talk followed the report, but I left them in favour of PCJJ, who were received at good speaker volume. The volume was steady till 7.30 a.m., when it went off very quickly till 7.37, when they signed off. The 40-metre station was heard.

Big Ben came through fairly well from 5SW at 7.30 a.m.

2ME were relaying the evening programme of 2FC.

The news of the arrival of Hinkler in Australia was heard while listening-in to this station.

A new station was faintly heard on 51 metres. On Thursday morning AFK, on 38 metres, came in well. They started about 6.45 a.m. with foreign talk. This was followed by a lot of V's and AFK in Morse. This was repeated several times. More talk followed. 2ME on 28.5 metres were relaying 2FC in the evening, but was spoilt by Morse interference. On Friday morning the 40-metre station was heard, but modulation was worse than usual.

PCJJ was fished up at 6.25 a.m. and was enjoyed at good speaker strength.

Modulation was good, but there was slight fading. They closed down at 7.38 a.m. after playing the Dutch National Anthem, and the announcement that the next transmission would be on Saturday, the 25th, at 13.00-17.00 G.M.T.

Big Ben from 5SW was heard at 7.30 a.m.

During the evening 2FC was received well through 2ME on 28.5 metres.

Later on the station on about 30.5 metres, thought to be a Jap., was heard, first with what sounded like a lecture and later on musical items. The call could not be understood.

5-W, South Australia, was heard testing.

On Saturday morning 5SW were, as usual, having a chat to 2XAD. Reports were read. Just before they closed down the speaker in Chelmsford said that Mr. Kirke, head of the B.B.C. development branch, "wants to speak to you." Mr. Kirke remarked on the wonderful weather we are having, etc.

At 7.30 a.m. Big Ben was quite good on the loudspeaker. This was followed by "London Calling." Mr. D. Aitken-sen will now tell you about some of the new — (poets, I think), but last word not clear. Could not stop for more, but this is the best reception yet of 5SW at 7.30 a.m.; it was almost as good as it was between 6 a.m. and 6.30 a.m.

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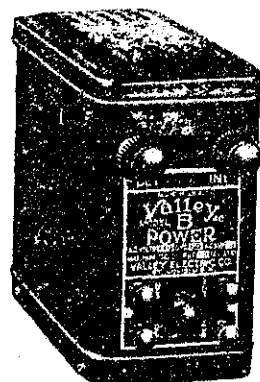
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# From the Woman's Point of View.

By VERITY.

## Health Talks for Mothers.

In view of the recent Bundaberg tragedy and the general antipathy to immunising children with serum which is bound to follow in its wake, a series of talks is to be introduced in the women's hour at 3.10, under the auspices of the Health Department. In order to enlighten the public, and mothers in particular, on the care exercised in the preparation of serums, and the necessity for their use, leading doctors will discuss the subject over the air during the series. Dr. Vera Scantlebury will begin the talks on March 2, and she will be followed by Dr. H. N. Peatonby and Sister Peck, all of the Health Department. Mothers will be able to form opinions based on surer ground as to the merits of serums after the talks.

## Women and the League of Nations.

In the dark days of 1916-17 John Oxenham, that choice poet, wrote these words:—"The one desire of every true woman's heart in all the world to-day is—Peace. What would not women give for peace that should endure for ever? Think of it: a mighty world-wide woman's league for peace? A thousand million women pledge for peace. In every land throughout the earth! It could be done. Women could make an end of war for ever." So wrote John Oxenham. His call to service rang through the United Kingdom and lent fresh courage to women of the British race at a time when the heart of womanhood throughout the world was sick with bruising. To-day, ten years later, it is almost universally acknowledged that it will be women who will put an end to war. Societies innumerable with this aim have sprung into existence since 1919. Because the stark reality of war is known in every land. With their eyes they saw the brutality and the horror of chemical warfare—unforgettable sights.

## Harbingers of Peace.

It is significant that the first conference to investigate the causes of war was held at the Wembley Exhibition organised by women. Recently the Peace Study Conference was held in Amsterdam—the President a great American woman, says:—"It is always a slow process to change public opinion—when, however, the opinion is world-wide and age-old, the task is colossal—much world-wide study of this question is necessary before nations will willingly give up the institution of war." Yet in all countries and in both Hemispheres there are agencies working towards its abolition. The most important, most powerful, is the League of Nations. Are women sharing in the work? Yes, surely—indeed the Covenant has been called the Women's Charter because of the important clause, Article 7, which runs: "All positions under or in connection with the League, including the secretariat, shall be open equally to men and women."

## Outlawry of War.

Much could be told of the magnificent work by women in co-operation with men in the ceaseless activities of the League of Nations, striving in many ways—direct and indirect—to change that age-old instinct towards fighting; the words of the poet have become the slogan of the politicians, and the women of all races are striving all the world over to bring about the outlawry of war, and thereby fulfilling the dream of 1917.—Mrs. Denton Leach from 4YA.

## The Letters of Annabel Lee

My Dear Elisabeth:

Women are poor puppets, I begin to think, jiggling along to any tune fashion chooses to call. Now we are allowing the waist line to ascend, and the skirt to dip down at the back quite a long way. Such an ugly style, don't you think? Why can't we emulate the austerity of men's attire, in which they look so nice, although very hot in these long summer days? Walking abroad of late, masculinity was encountered attired in orange tweed of brilliant hue. Quite a thousand pities, when the conventions were thus forsaken, that a more comforting hue was not chosen to clothe that podgy form and enhance that tropical complexion. Colour has such enormous value in the scheme of life. Some lovely tints there are that have a quality of music. There is a deep violet, in which some women, but only a few, may walk in beauty, which is as the notes of an organ; gold and green brocade gleams like the clash of harmony and discord in Lohengrin; and a yellow georgette viewed recently, quaint in frilliness and vandyked of hem, assuredly should trip, trip to a Boccherini Minuet.

Neither the complaint of farmers, nor the retort enthusiastic of lovers of the long day that closes this week, affect me; but after fitful fever of effort in this torrid summer time, greatly I love to stroll under the stars, aware of shadowy vistas that invite; dark ships in the harbour below Wadestown hill, duskily mysterious as the barge that bore Arthur the Good to that Avilion, where "Never wind blows loudly"; some pointing finger, of a crane of infinite utility in busy building hours, but at eventide etched into a gaunt finger beckoning one to dreams. The while from glimmering windows of elaborate flat and tiny dwelling come cheery snatches of wireless music, welding the world in a new community.

Social aspects are revolutionised by this miracle of our time. Upon a recent evening, at a supper party, Richard was the man of the hour, a laughing cavalier indeed, having brought along his latest toy, a portable set. This he dumped down casually, made a momentary manipulation; and lo, as we sat on the balcony smoking the best cigarettes in the world, suddenly the night was filled with the music of the Ellwood trio, all adding a chapter to the world's gospel of gaiety, rounded off by the intriguing supper our hostess provided, she being an artist

quite without peer in the concoction of savouries the most ravishing, made from such mundane accessories as trotters and tomatoes, macaroni and Davis' gelatine. To look at her no one would pick her as a domestic Angel in the House, with her other-world expression of pensive detachment, so deceptive to all men. On this occasion she attired herself in a smoking suit of Chinese blue, very Lido-esque in line, and skilfully fashioned to augment suave gracefulness of form. Another successful covering was a flock of geranium red, dipping here and there at the sides, the drapery cleverly imprisoned by a vivid poinsetta flower resembling a metamorphosed jellyfish, while to the olive-skinned neck closely clung one of those snaky necklaces destined to become as plentiful as the locusts that plagued Egypt.

At this long last there is somewhat of a swing of the commercial pendulum in favour of maturity, as pitted against the cheap salary and inevitable rawness of inexperience. For the past few years youth has had it all its own way; although it may be guessed that some of the positions aspired to were beyond its scope, however well trained for the path of independence; and this the High Commissioner has recognised in a recent appointment to his secretarial staff. In the beginning of the century female Beauty flaunted and flounced; since the Armistice Youth has swept the boards; now, perhaps, Brains are to have their day.

Even on the stage youth, as youth, has no particular value, unless allied to conspicuous talent and capacity for work, as in the case of Miss Jean Forbes-Robertson, the latest, and if not the greatest, a very witty and puck-like Peter Pan. Her Wendy is another example of hereditary gift, being a daughter of the great and tragic Sybil Thorndike. One hears that an attribute of the new Peter is a beautiful, beguiling voice; than which there can be no greater enticement, on the stage and off; and one imagines that the great amoureuuses of history were the possessors of that most excellent thing in dame or damsel.

Mr. Hugh Walpole has added a third to his delightful stories of a small boy and his faithful hound yclept Hamlet. A pang is felt that the most engaging hero grows a little older in "Jeremy at Crale"; but the same charm is here to which we responded in the other tales of this sequence, the same intuitive knowledge of the simplicities and com-

plexities of childhood, all set forth with a beautiful humanity that knocks at the door of our hearts. Proof of the amazing versatility of Mr. Walpole is given in the extraordinary truth in which he envisages the intimate tiny ambitions, the futile disappointments of sad women travelling towards old age down the sad path of impecuniosity, as in "The Old Ladies"; while others of his books show more than a suggestion of the morbid, which is a curious and surprising facet in the mind of the creator of the sane and simple Jeremy.

We are told that the episodic, gripping, most moving "Escape" is to be the last of the Galsworthy plays. Which is sad hearing of an author who holds so noble a place in the literature of the world. In direct contrast to the leisurely atmosphere and finished craftsmanship of Mr. Galsworthy, are the manner and matter of Mr. Edgar Wallace. We really are rather spellbound by those stories that spring triumphantly from that mine of creativeness, that driving force of energy and fertility. A born journalist, with a camaraderie embracing prince and prostitute, millionaire of the racecourse and down-and-out dossier, never was there a better "mixer," not even O. Henry himself. Through a most poor and rough-and-tumble childhood, and heterogeneous environment, the future successful playwright struggled on towards the light, here and there by hook and by crook assimilating food for his invincible flair for journalism. By a stroke of luck he was sent as newspaper correspondent to foreign countries, thereby adding strange types to the cosmopolitan gallery of his mind. After a struggle overwhelming to a lesser courage, Mr. Wallace has found his place and his public; turning out exciting plays and novels and sketches with as much ease as Johnny Morgan played the organ. Every week there would seem to be something flung full-fledged from his pen, having been dictated at lightning speed to his stenographer, a world champion at his job, as he needs must be. Those who lately waited breathless for the denouement of "The Ringer" know only one side of this challenging versatility; there are detective stories that thrill, and sketches in London types unforgettable in truth and humanity.

Your,

ANNABEL LEE.

## Jellied Rabbit.

One rabbit, blade of mace, pepper and salt, 1 pint water, 3 hard-boiled eggs, 2oz. powdered gelatine, 1 bay leaf. Wash and joint rabbit, put in pan with bay leaf and block of mace, add warm water, and simmer one and a half hours. Take the flesh from the bones and mince finely, strain hot stock, and pour over gelatine. Stir well, mix all together, and season. Garnish the mould with slices of hard-boiled egg, put in the rabbit mixture, and allow to set. Turn out and serve.

## For the Cook.

An alarm clock is a remarkable time-saver if used regularly in the kitchen. When putting a cake or pudding into the oven, set the alarm to the time it will need attention. A warning sound from the alarm will help when the hour to prepare a meal arrives.

## Devonshire Apple Cake.

Beat 1oz. of butter and 1oz. of sugar to a cream, add one large grated apple, one egg, and a breakfastful of flour. If not moist enough, add a little cold water. Bake in a hot oven for half an hour and serve hot for tea. This is a great favourite with all at this time of the year.

## Summer Lemonade.

1lb. loaf sugar, 1oz. tartaric acid, 1 quart water, 30 drops lemon essence. Put the sugar and water into a saucepan, bring to the boil, and let it cook for five minutes. Pour into a basin and let it cool, then add the tartaric acid and lemon essence. Use half a wine-glass at a time in a tumbler of cold water.

## Peach Marmalade.

4lb. ripe peaches, 2½lb. sugar, juice of 2 lemons. Peel the peaches, take out the stones, and weigh. Put them into a preserving pan and boil quickly for three-quarters of an hour, then rub the fruit through a sieve. Return it to the pan; add the sugar, and as soon as it is melted, bring to the boil and cook quickly for two minutes; then put in some of the peach kernels and cook for five minutes longer. Add the juice of the lemons, and cook five minutes longer. Put the marmalade into pots, cover down, and store away.

## Two Hints.

Serve "bloater paste," instead of mustard, with an ordinary steak pudding (made without kidney). No one would dare to recommend such a mixture without trial, nor having tried it fail to recommend so appetising a dish.

When whipping white of egg to make a meringue covering to a sweet, add one dessertspoonful of water to one egg. It will double itself and look as if you had used two.

## For Travellers.

When one is staying in rooms, or in any place where there is not much hanging accommodation for wearing apparel, it is a good plan to bore holes in the centre of some wooden coat-hangers in which you can screw some hooks. On these can be hung skirts, etc. The cup-hooks can easily be unscrewed for packing.

## Lengthening the Life of Linoleum.

When holes have worn in the linoleum grind some corks finely and mix to a paste with liquid glue. Fill the holes with this and smooth the surfaces. When it has dried and set rub the top with sandpaper to remove any roughness and lay on a little stain to match some colour in the linoleum.

## GOOD FARE FOR 1YA

"Cinderella," of 1YA (Auckland) continues to provide varied and excellent fare for her large family, and further good things are promised. She has a strong array of "Uncles" and "Aunts" providing excellent talks and stories six days a week, and in addition to these many novelties are given by occasional visitors and other performers, and the programmes have nearly always the charm of variety.

The musical guessing competition has a strong array of "Uncles" and conclusion, and very shortly "Jack and Jill," two makers of "musical noises" and singers of bright songs, will appear; then there is to be still another singer of funny songs and bright items for children, "Old King Cole." He is truly "a merry old soul," who is sure to call for his pipe and his fiddle, and he can laugh and sing and smoke and play as well as the original monarch.

Then, shortly there is to be a "sure-as-death" boy scout campfire sing-song. Now, isn't that good stuff? Then we may presently get Norman Tate, the well-known children's entertainer; "Pat and Cyril," musical prodigies; Genial Gerald, Sunny Jim (formerly "Genial Jimmy"), and these will be followed in due course by another "Do you know" competition, which should appeal to all. How's that for little "Cinderella," eh?

## MUSICAL HOURS

Last year one of the most popular of 3LO features was the musical talk conducted periodically by Mr. Fritz Hart. On Tuesday, March 6, the series will be revived. The talks are specially designed for children, and are full of interest and helpful hints.

## Children's Sessions for Next Week

### AT 1YA.

Tuesday—Cinderella in charge; plenty to interest the young folk.  
Wednesday—Uncle Tom's night. Much fun and music.

Thursday—Peter Pan; items by Grey Lynn Scouts; address by a member of the famous North West Mounted Police.

Friday—Nod in charge. Pupils of Miss Beryl Nettleton will assist; bedtime stories.

Saturday—The juvenile pupils of the Blind Institute are coming along this evening with songs, choruses and recitations.

Sunday—Song service conducted by Uncle Leo, assisted by children from St. James Presbyterian Sunday School.

### AT 2YA.

Monday, March 5.—Toby and Jeff will again face the "Mike" with their usual merry smiles and fund of stories, jokes, songs etc.

Tuesday—Uncle Jasper (not forgetting the notorious Spot) will cheer you for one whole hour. Madame Mueller's pupils have volunteered their assistance. There will be songs, choruses and tongue twisters that will twist your faces with laughter.

Thursday—Three cheers for a bright and instructive hour. Uncle Sandy rhymes and sings ditties for the little ones. Mrs. Kenny will bring her little pupils to join in the revels of the hour.

Friday—Uncle Ernest again. Associated with him are songsters as sweet as those merry warblers we hear early in the morning.

Saturday—Auntie Gwen and Dot will have something amusing in store for little radioland. Wait and see (or rather hear).

### AT 3YA.

Sunday, March 4—This is the hour that both young and old look forward to. Children's Song Service conducted by Uncle Sam, with scholars from the Riccarton Presbyterian Sunday School assisting.

Monday—Uncle Jack and Aunt Edna are in charge to-night, and will provide another hour's delightful entertainment for the little ones.

Wednesday—Another chatty evening with Uncle Peter and Mother Hubbard. Stories, songs, and all sorts of fun.

Thursday—Who have we here to-night? Why, Chuckle and Pollyanna, with laughs and jokes.

Also a bright and breezy band of entertainers from the West Christchurch school, with Mr. Parry in charge.

Friday—Big brother with stories for the big and little boys and girls. One of the stories will be about the song: "The Harp That Once Through Tara's Halls," and cousin Ewart is to sing the song for us. Also some lads and lasses from the Fendalton School are coming to entertain the Radio Family with songs and choruses.

Saturday—Another happy night for the little folks, when Uncle Sam and Aunt May will provide a merry hour at bedtime.

## "THE MAGIC DOORWAY"

This is the title of the new annual for children published by the B.B.C., and it is written by the Aunts and Uncles who have so endeared themselves to thousands of youngsters. "The Magic Doorway" is the entrance to that wonderful land behind the scenes at the broadcasting station, disclosing not only secrets of the studio, but the part that wireless plays in rescues at sea, and where air liners are stranded on lonely deserts. Besides this, there are plenty of stories of adventure, with beautiful pictures, lots of fairy tales, and many interesting nature articles.

## FOR LITTLE GARDENERS

"Mary, Mary, quite contrary, how does your garden grow?" runs the little song. Thousands of children are singing it, if not literally, in spirit, right now, for they are planting the special seeds supplied by 3LO.

With every birthday card is given a packet of mixed seed, and interest in gardening has increased 100 per cent. among children. "Old Adam," the kindly old gardener who knows all the things little children want to know about gardening, will tell just how to look after the gardens. Look out for his talks.

## FREE TO SMOKERS.

A VALUABLE and interesting booklet has been published by a reputable firm for the benefit of smokers. This booklet is full of instructive information, and contains extracts from statements made by some of the highest authorities in the medical world. Every smoker should read this booklet, which will be posted free on request.

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WELLINGTON.

# THE NEW ZEALAND Radio Record

PUBLISHED WEEKLY.

Printed Tuesdays to permit of effective distribution before the week-end, with full copyrighted programmes for the preceding 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.

FRIDAY, MARCH 2, 1928.

## DON'T DO IT!

The campaign that has been set on foot against the howling valve nuisance is all to the good, and we wish those concerned the fullest success. It will be, we believe, a source of gratification to Dr. Ziele, of Napier, whose letter in our columns some three weeks since was the starting point of this movement that is being taken up with such vigour. A joint meeting of the Wellington Amateur Radio Society, and the executive of the Wellington trade, was held last week to consider concerted action, which should have some beneficial effects. We are satisfied that the howling valve nuisance is wholly and solely a matter of ignorance. We cannot conceive of anyone deliberately seeking to make the air hideous for his fellow listeners. The only corrective that can be offered, therefore, is an educational one, and the joint effort to be made by speakers giving the necessary instructions and data from the Broadcasting Station, the diffusion of advice and information through trade efforts, and publicity through our own columns, should lead to a steady diminution of the nuisance. It is particularly timely that this campaign should get under way at the opening of the winter radio season. Radio has so much to commend it that every possible effort must be made to see that listeners enjoy the privilege of untrammelled reception.

Another matter briefly discussed at the joint meeting was that of the membership of Amateur Radio Societies or Listeners' Associations throughout the country. The difficulty of organising people whose only common bond is that they own a radio set can be granted, and it must be admitted that a tremendous amount of apathy has prevailed in regard to combination for joint representations. This is, we think, regrettable, as it may be conceded that it is of moment for the governing authorities to be informed authoritatively as to the view of their clients, the public, on matters arising out of the service rendered. It is, therefore, much to be desired that the listening public should be organised into strong associations whose executives could speak with authority and weight in relation to the interests of listeners. A considered campaign throughout the country directing the attention of listeners to the advantages of linking up with interested radio societies is desirable, and will have our fullest support. We would like to see the various societies in all districts, strong and effective. Members benefit not only by association with one another and the acquisition of knowledge not otherwise procurable, but by placing themselves in the position to give their representations proper advancement to the authorities.



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# PHILIPS

## RADIO

SR8

## "Don't Do It"

### ANTI-HOWLER CAM- PAIGN

## JOINT ACTION ADVOCATED

The prospects of a joint campaign on the part of all interested to educate the public in the prevention of howling are promising. Last week a deputation from the Wellington Amateur Radio Society waited on the executive of the Radio Dealers' Association in advocacy of joint educative action.

Mr. D. G. Wyles, chairman of the meeting, welcomed the members of the Radio Society and said that their interests were bound up together. He hoped that there would be definite co-operation between the trade and the Radio Society in future in matters demanding their joint attention.

Mr. Owen, president of the Radio Society, said that the principal object of their visit was to deal with the question of howlers. It was one which touched them all very much indeed. In England it was a notable fact that, by dint of perseverance, public opinion had been aroused to the nuisance of howling valves. By means of education, a great improvement had been effected, one slogan in particular having been very effective. In the midst of programmes a voice came over the air, "Don't do it." Illegal circuits and home-made sets wrongly wired, both contributed to the nuisance, and interfered with broadcasting. He would suggest that a deputation of the trade and the Radio Club wait on the Postmaster-General with a view to eliciting his assistance in connection with howling valves.

Mr. Morgan said that the more you popularised broadcasting the better for the trade, the broadcasting company and the listener-in. The difficulty with howling valves, especially in the small towns, was that the in-

FOR NOTES  
ON  
NEW DEVICES  
AND  
NEW EQUIPMENT  
SEE PAGE 2.

spectors had to do the work in their spare time, and as a result it was not done efficiently.

Mr. R. Leslie Jones, secretary of the Radio Society, said that they all knew that the home-made sets and the one and two-valvers were the cause of the trouble. They did not suggest that responsible firms were causing the trouble, but there were some who encouraged purchasers of small sets to push them beyond their limitations. Dealers should tell customers the limits of the one and two valve sets they sold. He thought the idea of a deputation to the Postmaster-General was a good one. Howling could be alleviated if not altogether eliminated. The Postmaster-General should circularise all listeners on the subject. There was no appliance for locating howling valves and electrical leakages in Wellington, and he thought that, when the deputation met the Minister, they should insist that the necessary appliances should be purchased for finding electrical leakages.

Mr. Wyles said that they realised the value of co-operation between the Society and the trade. There was not the slightest doubt that the howling valve was a very great nuisance, and the trade were feeling the effect of it. The howling valve menace could be handled only by means of education, and he thought the idea of the slogan: "Don't do it" coming in suddenly in the midst of a programme was an excellent one. He would like to put the views expressed by the Radio Society before a representative meeting of the trade, and see whether it would be possible to fall in with their wishes regarding the deputation.

## IN BAD TASTE

A gross breach of etiquette was perpetrated from 2YA recently by a speaker who was accorded the opportunity of dealing with facts connected with the Tasman flight. The general rule is for all talks over the air to be put in the form of manuscript. On this occasion this was not done, and the speaker abused the privilege of spontaneity by traversing other topics, disassociated from the subject, in critical vein. Such a breach is wholly re-

## NON-PAYMENT OF PUBLIC RELAYS

## STRONG SUPPORT FOR COMPANY'S ATTITUDE

Strong support for the policy of the Broadcasting Company in relation to the non-payment for relays of public performances was given by Mr. D. G. Wyles, chairman of the Electrical Dealers' Association, at a joint meeting of the trade and the Wellington Amateur Radio Society held last week. Mr. Wyles stated that his experience overseas fully endorsed the wisdom of the Company's policy. The value of publicity given over the air was elsewhere recognised, by public bodies and associations, and they did not hesitate to pay for the privilege of being broadcast on suitable occasions. Hundreds of stations were kept "on the air" in other parts of the world because of income derived from advertising. The effort that was being made in New Zealand to reverse this order and make the Broadcasting Company pay for the privilege of having a meeting or function broadcast, was, to his mind, unreasonable and should be resisted to the utmost. Listeners should thoroughly and fully take up the attitude of backing the Company on this point, as, if the Company yielded it would be impossible to forecast where the demand for payment would end, and the Company would be "landed" for charges which would only have to be met by listeners themselves in the end.

## Champion Band

## BROADCAST BY 3YA

## STUDIO CONCERT STAGED

Sunday evening was a memorable band night at 3YA. The championship contest had been held in Christchurch during the week and the winner, "Queen Alexandra's Own" from Wanganui was tendered a reception at the studio.

The performance started at 9.15 when congratulatory speeches were made and replied to over the air.

In the absence of the Mayor and Deputy-Mayor, Councillor P. W. Sharp represented Christchurch City and read a message from Mr. W. J. Rogers, Mayor of Wanganui on behalf of the citizens.

The judge of the contest, Mr. E. Jackson, of Brisbane, also spoke.

Replies to the congratulations were made by Captain George Buckley, conductor, and W. T. Nicholls secretary of the band. The latter took the opportunity of saying that the band was taking home four Shields and four strong men would be required in Wanganui to carry them to the bandroom.

Queen Alexandra's Own then played the two test selections and other items.

This was not the first time Queen Alexandra's Own has been on the air, as a concert given in the Liberty Theatre on the previous Sunday evening was broadcast, so although no relays of the band contest were permitted during the week, listeners throughout the Dominion have through the enterprise of the Broadcasting Company had the pleasure of hearing much music played by New Zealand's champion band.

During Sunday evening's performance Mr. Bellingham, director of music for the Broadcasting Company congratulated the band on its wonderful musical performances, which had never been surpassed in New Zealand. Mr. Bellingham also gave a lucid interpretation of "Scheherazade," one of the test selections and greatly assisted listeners to fully appreciate the bands interpretation.

An item at the children's session on Sunday evening was also notable. This was a cornet solo by Bandsman Buckley, the twelve year-old son of Captain Buckley and the youngest member in the "Queen Alexandra's Own Band." It may be added that Captain Buckley was at one time champion cornetist of New Zealand and Australia.

2YA was able to rebroadcast 3YA and thus enable Wellington listeners to enjoy a treat till nearly 10.30.

R.J. Crabbe (Napier).—Just a few lines and remarks on radio in Napier. In the first place, I must say that the "Record" is the very thing for fans, as the programmes and hints, etc., are invaluable to listeners.

## 2ZF PALMERSTON

MANAWATU CLUB'S NEW  
STATION.

The Manawatu Radio Club has now completed the testing of its new station, and is organising for its opening night.

In connection with the test transmissions, reports have been received from all over New Zealand of their successful reception at good volume. Specific reports were available from Wellington, Christchurch, Picton, Nelson, Westport, Timaru, Balclutha, Lawrence, Gore, Napier, Waitara, Glenafon, Dargaville, Awanui, Wairoa (North Auckland), Wairoa (Hawke's Bay), Masterton, and Te Mata, Bay of Plenty. A few of the reports say that all commented on the clarity of the music, and many said of the transmission effected on Wednesday, February 15, that it was "as clear as a bell."

The power of the new station is now 50 watts, and its wavelength 285 metres. The old hours of transmission were from 7.30 to 9.30 on the evenings of Mondays, Wednesdays, Saturdays, and Sundays, and the Club wishes to retain that schedule, although alterations may be made. The Club is aiming at achieving perfect modulation in its new equipment, and the preliminary reports bear out the hope that a very high standard indeed has been attained. The station's call is 2ZF.

## Sunday Evening Concert.

E. H. Pope (Wadestown): It was a very great pleasure to hear the Anthem "Hear My Prayer" so beautifully rendered by the Vivian Street Baptist Church choir, especially Miss Nichols singing of the solo part.

I am sure I should be voicing the wishes of a great number of listeners in if I asked to have it repeated. Might I suggest that the Vivian Street Baptist Church choir be asked to give a Sunday evening concert, including this anthem. I am a member of a church choir and, as a rule, not able to hear the services which are broadcast.

When putting up an emergency aerial, insulation should not be dispensed with if best results are desired. If no insulators are at hand, old cups, glasses or bottles will perform the service admirably.

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# Some Features of Next Week's Programmes

## "CARMEN" AT 1YA

### MADAME IRENE AINSLEY IN LEADING ROLE

Scarcely any opera is better stocked with good tunes than "Carmen," which is to be produced at 1YA studio on Tuesday, March 6, by Madame Irene Ainsley. This opera was written by the Patisian, Bizet, less than a year before he died. Although the dramatic thread of the music and of the action is continuous throughout the opera, the music is very largely broken up into separate numbers, each self-contained with a definite beginning and ending. For this reason the music is well adapted for performance away from the stage. About half of it will be given in the coming studio performance, into which will be concentrated the best parts of the opera.

Madame Irene Ainsley will play the role of "Carmen," a part which has made her name famous. On the London stage at the "Old Vic" her continued success and popularity earned for her the title of the "English Carmen." Her last public appearance was at the performance of "Carmen," produced by herself, at His Majesty's Theatre, Auckland, on December 19 and 20. The coming broadcast will enable people all over the country to hear the glorious music of "Carmen."

Miss Nancy Hanna will take the role of Micaela. Mr. Robert Peter will be Don Jose and Mr. James de Montalk will be Escamillo.

Prior to the presentation of "Carmen" a first-class studio concert will be given by the same artists, assisted by the Bosworth-Hemus-Towsey Trio and Mr. Fred Bowes (cornetist), while there will be a music relay and a vocal interlude from the Majestic Theatre.

The fourth of the series of tales on old New Zealand will be given by Mr. A. B. Chappell, M.A., on Tuesday evening. This instalment will be entitled "Tales of Maori Conflicts."

Another lecture on the same subject will be given on the following Thursday by Mr. George Graham, who will speak on "The Origin of the Maori."

Next Wednesday's programme will be a relay of the municipal concert in the Auckland Town Hall, augmenting which will be items to be given in the studio by the Hazel-Sutherland Duo.

A fine miscellaneous programme is scheduled for Thursday evening. Mina Caldwell will sing two songs by Franch, as well as "The Star" (by Phillips) and "A Request" (by Finden). The old London song, "Down Vauxhall Way," will be sung by Miss Lolo Solomon, who will also sing two other numbers, including "Solweig's Song" (by Greig). Mr. Barry Coney's name appears against three items on the programme. Instrumental music will be played by the Bosworth-Hemus-Towsey Trio and by Miss Bosworth (cello), while selections of a lighter nature will come from Mrs. H. Morton's piano and from Nell, the Bohemian.

Madame Mary Towsey's quartet—Madame Mary Towsey, Miss Gwendyth Evans, Mr. Rose and Mr. John Bree—will provide the vocal portion of the musical programme on Friday. The items are of a diversified nature, including quartets, duets, and solos. The Bosworth-Hemus-Towsey Trio, Mr. Cyril Towsey (piano), and Messrs. Davies and Salthouse (cornet duo) will supply the instrumental music.

Friday is Mr. F. J. Montague's night. Next week the elocutionary section of the studio programme will comprise a little Shakespeare, a group of children's poems, and a Dickens sketch, a portrayal of Fagin, the contemptible old Jew in "David Copperfield," than the description of whose last night in the condemned cell there is nothing more graphic in the English language.

Selections from the musical comedies "Maytime" and "Maid of the Mountains" will be items to be sung on Saturday evening by a duo composed of Miss D. Youd and Mr. D. Wrathall.

Both artists will also sing solos. "A Spirit Flower" will be sung by Miss Youd, and "The Mountains o' Mourne" by Mr. Wrathall.

A new entertainer at 1YA on Saturday evening will be Mr. Headlam Greenhow, who will give two piano sketches entitled "The Village Orchestra" and "Three Blind Mice." Hawaiian melodies and popular airs will be played by the Le Pali Duo.

On Sunday, after the relay of the Anglican Church service in St. Mary's Cathedral, the municipal organ recital in the Town Hall will be broadcast.

## 2YA NOTES

There is a lot of good material used in the building up of the programme for Monday evening at 2YA. The Celeste Quartet, in solo, duet and concerted items, will present some of the best of their repertoire. This evening also Mr. Stanley Warwick, the well-known elocutionist, is appearing in two items, one by Jerome, "Uncle Podger Hangs a Picture," and the other also a humorous one, "Spring." Mr. H. Montgomery is down for two vocal entertainments, while the instrumental trio and Berthold and Bent will supply music of two distinct classes.

On Monday evening Professor T. A. Hunter, of Victoria University, will give a lecture on "The Mind of the Man."

The Orpheus Quartet on Tuesday, March 6, will present two quartettes—"All in a Garden Fair," which is an arrangement of a madrigal written in 1565, and "Bovine Barcarolle," a humorous number of topical allusions. Miss Alice Harris sings "Love is Life" from the "Maid of the Mountains," and with Mr. Len Barnes the humorous duet "Husbands and Wives" from the same musical comedy.

Miss Lily Mackie will present on Tuesday a new song by Dr. Harde-lot, the writer of so many popular numbers, "Dreams of the Dusk," and with the quartette chorus, the old Minstrel song, "I Want to See The Old Home." Mr. Arthur Coe sings two numbers, "To Mary" and "A Farewell." A very dramatic number, "Mine Enemy," by Olga Rudd, will be given by Mr. Len Barnes.

The perpetrations of the combination known as the Mellow Fellows continue unchecked from 2YA, and their "goings-on" ramble with a delightful inconsequence from the sublime to the ridiculous. They state frankly that they are personally more at home in the latter class. But nonsense, if it is clever nonsense, or is well done, is always enjoyable, and if the actor gains the approbation of his audience—visible or invisible—and what is a truer test, satisfies himself, then he has not disgraced his calling. The fare which the "Mellow Fellows" are providing is palatable; nay, more, it is good, if only to tickle the ear, and in some part of the menu is a dish to suit each taste.

The "Old English" programme to be presented by the Ariel Singers on Friday, March 9, promises a wealth of popular items. Such songs as "The Lass of Richmond Hill," "Sigh No More, Ladies," and "Early One Morning," will never sink into obscurity, and many doubt whether melodies of such rare lyric beauty will ever be surpassed. Four old English composers whose works are known and loved by musicians the world over, are Thomas Morley (1595), Henry Purcell (1658), Thomas Arne (1710), and Sir Henry Bishop (1786), each of whom will be represented on Friday evening's programme. Listeners in who find musical reflex in the flowing harmonies of their Mother Country may rest assured that the latter will lose nothing of their beauty at the hands of the Ariel Singers, who present glees, folk songs, madrigals, traditional songs, and ballads with unvarying musical taste and understanding.

Prior to the relay of dance music from the Columbian Cabaret, Kilbirnie, an hour's entertainment of the usual

bright Saturday song nature will be broadcast from 2YA. Vocal items by the Melodie Quartet (solo and concerted), with piano capers by Mr. James Skeddson, and selections by the instrumental trio, will constitute the programme.

On Sunday listeners are again to be favoured by a varied and attractive programme by the William Renshaw Quartet, a feature of which will be some of the real favourites of years ago, which will doubtless bring back memories to large numbers of radio enthusiasts. The simplicity of this programme will make its inevitable appeal. Probably the best known of these will be our old favourite, "Home, Sweet Home," to be rendered by Mrs. Amy Dunn.



MISS DULCIE MITCHELL, a contralto singer heard favourably from 3YA.

Photo Webb.

At Sunday evening's concert Mr. William Davies will undoubtedly please with his rendition of "Nirvana," while Miss Nora Greene and Mr. William Renshaw will sing that charming duet, "For All Eternity" in their own inimitable style. Their solo items will include Sullivan's "Golden Days," to be sung by the former, and the old Irish traditional air, "Believe Me, if All those Endearing Young Charms," by the latter.



MR. E. W. HEALD, whose English concertina gives pleasure at 3YA.

Photo Webb.

## 3YA NOTES

The instrumentalists for Monday evening at 3YA will be the band of the First Canterbury Regiment. A good programme has been arranged.

A feature of the programme on Monday evening will be a new male voice combination. Solos and duets by Messrs. Charles and Maurice Lawrence and Mr. Alfred Lovett. Mr. Charles Lawrence possesses a fine baritone voice, Mr. Alfred Lovett being a tenor, while Mr. Maurice Lawrence sings songs at the piano as well as sharing in duets.

Miss Marjory Miller, A.T.C.L., will sing the soprano solos "Until," "Down Here," and "She is far from the Land."

Gilbert's famous "Yarn of the Nancy Bell" will be one of the humorous items to be recited by Mr. Hiram Dunford on Monday evening. And there will be "The Groom's Story" (the tale of a horse and a motor-car).

Songs by Lohr will form the vocal portion of the musical programme for 3YA on Wednesday, when the singers will be Miss Nellie Lowe, Miss Mary Shaw, L.R.A.M., and Mr. A. G. Thompson (the other member of the Dulcet Quartet, Mr. T. G. Rogers, being away on a holiday). Lohr's works include some of our prettiest songs.

Mr. J. R. Lester, the well-known teacher of elocution, has two items which will amuse listeners on Wednesday evening.

Instrumental music of contrasting types will be played on Wednesday evening by the Broadcasting Trio, Miss Irene Morris (violin), and Mr. Arthur Hodgson (banjo).

Songs of the sea will be sung by the Melodious Four on Friday evening. Nautical ditties are very popular at the present time, and the miscellaneous collection which will be presented on Friday will provide a most entertaining evening. The choruses should be distinctly good, while splendid singing may be expected of the solos by Miss Frances, Miss Belle Renaud, Mr. Russell Sumner and Mr. T. D. Williams.

"Hints to Poultry Keepers" may sound like the title of a lecture to devotees of the feathered game, but as it is to come from Mr. James Lawrenson the chances are that it is meant to be more entertaining than instructive. Another of Mr. Lawrenson's humorous efforts will be Lawson's "O'hara, J.P.," a story of country life in Australia.

A new minstrel combination will appear at 3YA on Saturday evening, included in their repertoire being some negro melodies. The members of the party, which will be known as the Avonians Minstrels, are Messrs. F. Rogers, J. Filer, F. Olds, and D. Clapperton. They will submit a varied kind of programme, including musical monologues from Mr. Olds.

Mr. P. Cole will be another artist for Saturday evening. He is a mouth-organ exponent and will play popular melodies. Other contributors to the programme on Saturday evening will be Mrs. P. S. Lawrence (singer of popular songs), Mr. Sydney Comfort (humour), and Miss Elaine Moody (Hawaiian Trio).

The Rev. Lionel Fletcher, of the Beresford Street Congregational Church, Auckland, who claims the honour of being the first minister to broadcast in New Zealand, is to be "on the air" in Christchurch on March 11. In Auckland the Rev. Fletcher is Uncle Leo,

beloved of all the children who listen to 1YA.

A studio concert will follow the church service on Sunday when an excellent programme has been arranged. Mr. Ad. R. Thompson (tenor), who will sing "Comfort Ye, my People," "My Task," and "Star of Bethlehem," was an artist who toured with J. C. Williamson Companies, but who is now a resident in Christchurch. Another new artist to radio will be Mr. A. G. Brown (baritone). Other artists will be Miss Ella Skurr (soprano), Miss Mand K. Stout (pianoforte), and Mr. Fred Fox (cornetist).

## 4YA NOTES

On Sunday next, in place of the usual relay of church services, a service and sacred concert, organised by the International Bible Students' Association, will be presented from the studio. This will comprise an address by Mr. O. G. Canty, several hymns rendered by a choir, and some vocal and instrumental items by leading Dunedin performers.

At 7.30 on Tuesday evening an address will be given by Mr. Marshall, of the Tourist Department. He will deal with the attractions of well-known tourist resorts. Mr. Marshall is not unknown to listeners. During the New Zealand and South Seas Exhibition, where he was in charge of the Tourist Bureau, he contributed addresses regularly, which undoubtedly had the effect of inducing a great many visitors to the exhibition from various parts of New Zealand and Australia to explore the many scenic attractions around Otago. It will be remembered that Mr. Marshall went to the Toronto Exhibition in the New Zealand Tourist Department's interest.

The Kaikorai Band, under the conductorship of Mr. E. Franklin, will present a first-rate programme from 4YA on Tuesday evening. Several popular numbers will be heard; von Suppe's overture, "Light Cavalry"; Alford's "Humoresque"; "Musical Switch," a selection from Verdi, "Un Ballo in Maschera," and the ever-popular "Turkish Patrol." The band items will be interspersed by a most interesting programme of vocal and elocutionary items by some foremost artists.

Miss Madge Yates, who has achieved a conspicuous success in elocutionary work, and who holds a high place in New Zealand, will present several recitals on Tuesday.

Mr. Carl Moller, a newcomer to the microphone, and one of Dunedin's leading elocutionists, will also be on this programme in humorous recitations.

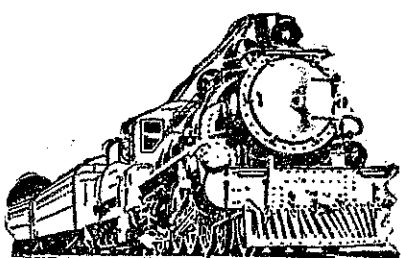
Miss Christina Green, of London, will render mezzo-soprano solos. Other vocalists will be Mr. R. B. MacDonald and Mr. Frank.

Thursday evening's programme will be of a very high order. The artists taking part in this are Miss Agnes Guy (mezzo-soprano), Miss Dorothy Skinner (contralto), Mr. L. M. Cachemaille (baritone), and Mr. F. C. Cooper (bass). Instrumental numbers will be provided by Mr. J. McCaw. Dunedin's leading saxophonist, and Miss Marjorie Watts (pianist). At intervals throughout the programme selections by the Octagon Theatre Orchestra, under the conductorship of Mr. L. D. Austen, will be relayed.

Another attractive programme will be presented on Friday evening. Soprano items will be rendered by Mrs. D. Carty and contralto songs by Miss Flora Williamson. Mr. Bert Rawlinson will sing two baritone numbers from the opera "The Rebel Maid," and bass solos will be sung by Mr. Neil Black, who has chosen three popular numbers, "The Trumpeter," "Come Sing to Me," and the beautiful little ballad "Echo," by Lord Somerset.

The programme for Saturday night will include mezzo-soprano songs by Miss Mollie Vickers, who will be heard from time to time from 4YA. Miss Vickers is musical directress at Dunedin Training College and is one of the best known singers in Dunedin.

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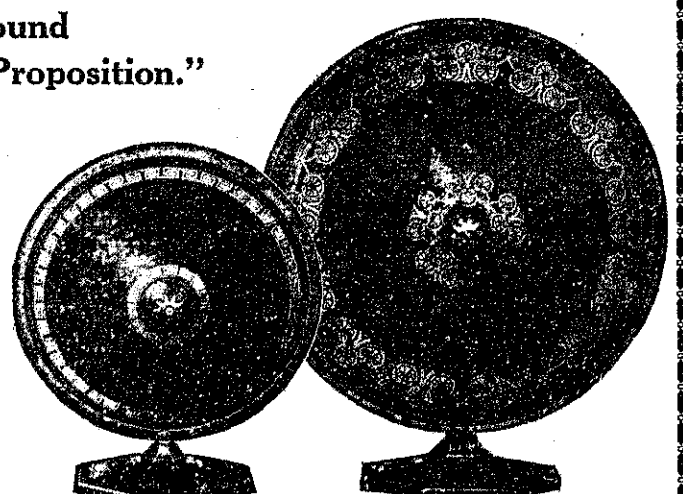
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The compositions by Dvorak (born 1841), one of Bohemia's foremost composers, have gained a world-wide popularity. His Slavonic dances have achieved for him a parallel fame with the Hungarian dances by Brahms. Two choral works which have helped to make his name widely known are the "Stabat Mater" and "The Spectre's Bride," both of which are much beloved by the British-speaking musical public. His "New World" Symphony, written during his sojourn in America, and into which he introduced characteristics, real or imaginary, of negro music, has become almost a popular symphony. His works written in chamber music form are amongst the most brilliant efforts in this field of composition and show an unusually dazzling genius for tonal effects. The "Dumky" trio to be played this week by the Symons-Milwood-Short Trio is the best known of his trios and is thoroughly representative of his gift of melody and his sense of rich tonal colouring. It consists of a series of movements linked together by an underlying current of sadness, although periods of wild exultation are interspersed between them. The work suggests a collection of folk songs and dances. It is music which makes a strong appeal to any ear capable of enjoying the rhythm and melody of the Hungarian dances by Brahms.

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## NOTES AND COMMENTS

(By "Switch.")

How the love of "good" music is being extended from the select circle of cultured groups to the general public is explained by an American writer, as follows: "In spite of all generally-accepted theories to the contrary, the middle classes of America are being coated with culture, and the germ of this culture, which is carried on the radio waves, is penetrating far deeper than the surface. They may be untutored in knowledge of the art of the brush and paint, they may be ignorant of the value of classic lines in clay, but when it comes to the notes of music, they know their operas and they know their artists."

The "Scientific American" says of the new American double-grid valve: "This UX-222, when properly connected, is said to increase the signal voltage about 30 to 40 times, as compared with a five to seven voltage increase obtained with the average general purpose valve. When employed as a space-charge-grid valve, the received signal voltage may be intensified by more than 150 times per stage of amplification. The tube requires but 182 amperes of filament current at a voltage of 8.3.

The dream of radio as a means of individual and secret communication between persons or any two desired places on earth is fading away, according to Dr. J. H. Dellinger, chief of the radio laboratory of the United States Government Bureau of Standards. "The directing of radio waves in a very sharply defined beam, like light from a searchlight, is a consummation not likely to be achieved," says Dr. Dellinger. "Nevertheless, the approximations that have been and are being made are of great value. About ten years ago, Marconi demonstrated that, by the use of a parabolic reflecting arrangement, radio waves could be partly directed in a definite direction. With such an arrangement the intensity of the waves along the desired direction was several times that found at angles greater than 20 degrees from that direction."

Many vernier dials are operated on a friction principle and their use in a receiver is often interfered with by the mechanical construction of the variable condenser which they actuate. A great number of condensers are equipped with a braking mechanism to provide various tensions in respect to the ease with which the shaft may be revolved. Many condensers are adjusted at the factory so that a considerable amount of tension is present. A friction driven vernier dial will slip when used in conjunction with such a condenser and is subject to considerable "back-lash." The use of a screwdriver or pliers, as the case may be, will allow the braking mechanism to be loosened so that operation of the vernier dial will be most satisfactory. A careful examination of the condenser will usually disclose just what part acts as the brake.

As many as 325 words per minute in both directions have been sent by beam radio between Australia and England. Are there any "fans" who can read morse at that speed?

Dr. Irvine Wolff, a prominent American radio engineer, says that the sound given off by the loudspeaker depends both upon the efficiency of the radiating surface and its amplitude of motion, and that low tones can be obtained from even a small surface by making the motion large.

The majority of loudspeaker cords have one of the wires equipped with a red tracer. The wire thus marked should at all times be connected to the "B" positive of the loudspeaker output of the receiver unless an output transformer is used. Damage may result to the speaker if the "B" battery voltage is applied to the wrong terminal. A convenient method for testing whether or not the polarity is correct is to connect the speaker to the output of the receiver and observe the quality and volume of reproduction. Then reverse the terminals and repeat. If the volume and reproduction is of a better order, it is safe to allow the connections to remain. If, on the other hand, a decided decrease in quality and volume is observed, reverse the terminals to their original polarity.

A New York radio authority says: "An error in popular discussion of recent super-power developments, particularly with respect to WGY's (Schenectady) 100-kilowatt set, is the assumption that doubling the power doubles the effective range. At the time WJZ's present equipment was installed, engineers explained that, because of the 'square-root rule,' which applies in such a case, it is necessary to increase the power four times in order to double the signal strength, which means 200, and not 100 kilowatts, is the next step in power increases, but one not expected in the near future."

The constables of the Police Department in Passaic, N.J., U.S.A., have each been supplied with a pocket receiving set, with which they are able to receive messages from headquarters whilst on their beat. The inventor of the system is Michael Rush.

## Sunday, March 4th

1YA AUCKLAND (333 METRES)—SUNDAY, MARCH 4.

- 3 p.m.: Afternoon session—Selected studio item.  
4.0: Literary selection by the Announcer.  
4.30: Close down.  
6.0: Children's service, conducted by Uncle Leo, assisted by cousins from Beresford Street Sunday School Choir.  
6.55: Relay of evening service from St. Andrew's Church. Preacher, Rev. Lamb-Harvey; organist, Dr. Neil MacDougall.  
8.30: Vocal quartet—The St. Andrew's Quartet, "Through Peace to Light" (Turner).  
8.35: Contralto solo—Miss P. Gribben, "Harvest" (Del Riego).  
8.39: Tenor solo—Mr. Robert Peter, "Be Thou Faithful Unto Death" (Mendelssohn).  
8.44: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio in C Minor, Op. 1, No. 3, Allegro" (Beethoven).  
8.54: Vocal quartet—St. Andrew's Quartet, "O, Saviour of the World" (Goss).  
8.59: Weather forecast.  
9.1: Bass solo—Mr. A. Colledge, "O, God Have Mercy" (Mendelssohn).  
9.5: Vocal duet—Miss Taylor and Mr. Peter, "Love Divine" (Stainer).  
9.10: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio in C Minor, Op. 1, No. 3, Andante and Var." (Beethoven).  
9.20: Vocal quartet—St. Andrew's Quartet, "Turn Thy Face" (Sullivan).  
9.25: A thought.  
9.27: God Save the King.

2YA WELLINGTON (420 METRES)—SUNDAY, MARCH 4.

- 6 p.m.: Children's service, conducted by Uncle Ernest.  
6.55: Relay of evening service from Taranaki Street Methodist Church. Preacher, Rev. Clarence Eaton; organist and choral director, Mr. H. Temple White.  
8.30: Mezzo-contralto solo—Miss N. Coster, "Like to the Damask Rose" (Elgar).  
8.35: Vocal quartet—Ariel Singers, (a) "The Ash Grove" (Welsh air, arr. by Crampton); (b) "Sleep, Gentle Lady" (Bishop).  
8.43: Instrumental quartet—Symons-Ellwood-Short Quartet, "Andante Cantabile from D Major Quartet" (Tschalkowsky).  
8.48: Tenor solo—Mr. Roy Hill, "Praise Ye the Lord" (Bantock).  
8.52: Vocal duet—Miss N. Coster and Mr. J. M. Caldwell, "Love Divine" from "The Daughter of Jairus" (Stainer).  
8.57: Vocal quartet—Symons-Ellwood String Quartet, (a) "First Movement from G Major Quartet" (Mozart); (b) "Minuetto" (Boccherini).  
9.3: Soprano solo—Miss Jeanette Briggs, "The Willow" (Goring Thomas).  
9.8: Vocal quartet—Ariel Singers, "The Winds" (Cympton).  
9.14: Cello solo—Mr. Geo. Ellwood, "Air With String Accompaniment" (Bach).  
9.20: Tenor solo—Mr. Roy Hill, selected.  
9.25: Bass solo—Mr. J. M. Caldwell, "The Windmill" (Nelson).

3YA CHRISTCHURCH (306 METRES)—SUNDAY, MARCH 4.

- 5.45 p.m.: Children's song service, conducted by Uncle Sam, assisted by the East Belt Methodist Sunday School.  
7.0: Relay of evening service from St. Andrew's Presbyterian Church. Anthems: (a) "I Was Glad When They Said Unto Me" (Elvy); (b) "The Sun Shall Be No More" (Woodward).  
Preacher, Rev. N. L. D. Webster; organist, Mr. R. E. Lake; choir-master, Mr. J. McLean.  
After the church service the following concert will be given from 3YA studio:—  
8.15: Baritone solo—Mr. Francis Jones, "Thou Art Passing Hence, My Brother" (Sullivan).  
Soprano solos—Mrs. Frank O'Brien, (a) "At Dawning" (Cadman); (b) "Light Has Sent Me Many Roses" (Lohr).  
Clarinet solo—Mr. M. E. Withers, "Scena d'Aria" (Bergson).  
Contralto solo—Miss Nancy Bowden, "O, Rest in the Lord" from "Elijah" (Mendelssohn).  
Baritone solos—Mr. Francis Jones, (a) "Nazareth" (Gounod); (b) "A Song of Sleep" (Somerset).  
Soprano solo—Mrs. Frank O'Brien, "Rumanian Night Song" (Lohr).  
Clarinet solo—Mr. M. E. Withers, "Ave Maria" (Schubert).  
Contralto solo—Miss Nancy Bowden, "Creation's Hymn" (Beethoven).  
God Save the King.

4YA DUNEDIN (463 METRES)—SUNDAY, MARCH 4.

- 5.45 p.m.: Children's song service, conducted by Big Brother Bill.  
6.45: Sacred concert and service by the International Bible Students' Association. Speaker, Mr. O. G. Canty.  
9.10: Close down.

## Monday, March 5th

1YA AUCKLAND (333 METRES)—MONDAY, MARCH 5.  
SILENT DAY.

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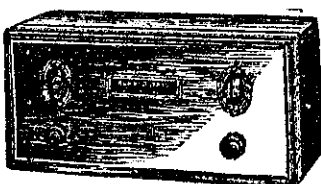
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2YA WELLINGTON (420 METRES)—MONDAY, MARCH 5.

- 3 p.m.: Chimes of the G.P.O. clock, Wellington.  
3.1: Selected gramophone items.  
3.30: Lecturette on "Fashions," by a representative of James Smith, Limited.  
3.45: Selected gramophone items.  
5.0: Close down.  
6.0: Children's hour—Tohy and Jeff.  
7.0: News session, market reports, and sports results.  
7.40: Lecturette on "Our Weights and Measures," by Mr. H. E. Mostyn, of the Labour Department.  
8.0: Chimes of the G.P.O. clock.  
8.1: Overture—"Valse Triste" (Sibelius).  
8.5: Vocal quartet—The Celeste Quartet, "The Stars that Above Us Are Shining" (Weber).  
8.9: Humorous recital—Mr. Stanley Warwick, "Uncle Podger Hangs a Picture" (Jerome).  
8.14: Soprano solo—Miss Myra Sawyer, "As Thro' the Street" from "La Boheme" (Puccini).  
8.18: Instrumental trio—Symons-Ellwood-Short Trio, "First Part Dumky Trio" (Dvorak).  
8.28: Vocal duet—Miss Mabel Dyer and Mr. Edgar Swain, "A Little Old Garden" (Hewitt).  
8.32: Flute solo—Mr. L. W. Rothwell, "Andalouse" (Krantz).  
8.37: Harmony—Mr. H. Montgomery, a vocal entertainment.  
8.42: Violin solo—Miss Ava Symons, "Meditation" (Glazounov).  
8.47: Bass solo—Mr. Wm. Boardman, "A Bachelor Gay" from "Maid of the Mountains" (Tate).  
8.51: Hawaiian duos—Messrs. Berthold and Bent, (a) "Me and My Shadow" (Jolson and Dreyer); (b) "What Does It Matter?" (Berlin).  
8.59: Weather forecast.  
9.0: Lecturette—Professor T. A. Hunter, of Victoria University, "The Mind of Man."  
9.10: Contralto solo—Miss Mabel Dyer, "Dawn" (Paul Currin).  
9.14: Humorous recital—Mr. Stanley Warwick, "Spring" (Thomas).  
9.20: Vocal duet—Miss Myra Sawyer and Mr. Wm. Boardman, "How Long in Torment Sighing" (Mozart).  
9.25: Instrumental trio—Symons-Ellwood-Short Trio, "Second Part Dumky Trio" (Dvorak).  
9.35: Harmony—Mr. H. Montgomery, five minutes of melody.  
9.40: Flute solo—Mr. L. W. Rothwell, "Idyll" (Pessard).  
9.44: Tenor solo—Mr. Edgar Swain, "La Donna e Mobile" from "Rigoletto" (Verdi).  
9.49: Hawaiian duos—Messrs. Berthold and Bent, (a) "Southern Blues" (Palakiko); (b) "In a Little Spanish Town" (Wayne).  
9.57: Vocal quartet—Celeste Quartet, "A Little Grey Home in the West" (Lohr).  
God Save the King.

3YA CHRISTCHURCH (306 METRES)—MONDAY, MARCH 5.

- 3 p.m.: Afternoon session—Selected studio items.  
4.30: Close down.  
6.0: Children's hour—Uncle Jack and Aunt Edna—Birthday greetings, stories, and songs.  
7.15: News and reports.  
8.0: Chimes. Relay of orchestral music from Strand Picture Theatre Orchestra, under the conductorship of Mr. Harry Ellwood.  
Band concert by Band of 1st Canterbury Regiment Infantry, under the conductorship of Lieut. C. H. Hoskin and assisting artists.  
8.15: Baritone solo—Mr. Charles Lawrence, "The Stoker" (Arundale).  
8.19: March—Band, "Colonel Bogey" (Alford) (by request).  
8.23: Soprano solos—Miss Marjorie Miller, A.T.C.L., (a) "Until" (Sander-son); (b) "Down Here" (Brahe).  
8.26: Fantasia—Band, "Carnival of Flowers" (Le Due).  
8.31: Vocal duets—Messrs. Alfred Lovell and Chas. Lawrence, (a) "Rock-a-Bye Days" (De Sylva); (b) "Hop, Skip, and a Jump" (Kahn).  
8.37: Humoresque—Band, "Ding, Dong Bell" (Trentland).  
8.40: Humorous recital—Mr. Hiram Dunford, "The Yarn of the Nancy Bell" from "Bab Ballads" (Gilbert).  
8.46: March—Band, "Ruaparaha" (Lithgow).  
8.50: Songs at the piano—Mr. Maurice Lawrence, "When You're a Long, Long Way from Home" (M.S.).  
8.54: Tenor solo—Mr. Alfred Lovett, "The Big Parade" (De Sylva).  
8.59: Weather forecast.  
9.0: Relay of orchestral music from the Strand Picture Theatre.  
9.10: Baritone solo—Mr. Charles Lawrence, "Ships that Never Come In" (Yellen).  
9.14: Cornet solo—Band soloist, "Come, Sing to Me" (Thompson).  
9.17: Vocal duet—Messrs. Lovett and C. Lawrence, "While the Years Go Drifting By" (Wall).  
9.21: Selection—Band, "La Sonnambula" (Bellini).  
9.26: Soprano solo—Miss Marjorie Miller, "She Is Far from the Land" (Lambert).  
9.33: Waltz—Band, "Summer Glory" (Greenwood).  
9.37: Humorous recital—Mr. Hiram Dunford, "The Grom's Story" (the story of a horse versus car) (M.S.).  
9.42: Selection—Band, "Arcadians" (Moncton, arr. Talbot).  
9.47: Male voice duets—Messrs. Maurice and Charles Lawrence, (a) "The Ghost of the Violin" (Gordon); (b) "He's a Devil" (Kyle).  
9.55: March—Band, "Higher Grade" (Carter).  
God Save the King.

4YA DUNEDIN (463 METRES)—MONDAY, MARCH 5.  
SILENT DAY.

## Tuesday, March 6th

1YA AUCKLAND (333 METRES)—TUESDAY, MARCH 6

- 3 p.m.: Afternoon session—Selected studio items.  
3.30: Talk on "Cooking by Electricity," by a representative of Turnbull and Jones.  
4.0: Literary selection by the Annoy.  
4.30: Close down.  
6.0: Children's hour—Cinderella.  
7.15: News and reports.  
8.0: Chimes.  
8.1: Relay of orchestral overture from the Majestic Theatre, under the conductorship of Mr. J. Whiteford-Waugh.  
8.5: Baritone solo—Mr. Jas. de Montalk, "Plymouth Ho" (Lemare).  
8.9: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio in D Major, Lento Allegro" (Reinecke).  
8.18: Soprano solo—Miss Nancy Hanna, "It Is Not Because Your Heart Is Mine."  
8.21: Cornet solo—Mr. Fred. Bowes, "Lizzie Polka" (Hartmann).  
8.26: Relay of musical interlude from Majestic Theatre.  
8.30: Tenor solo—Mr. Robert Peter, "Farewell in the Desert" (Adams).

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# Week - All Stations - to Mar. 11

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- 8.34: Instrumental Trio—Bosworth-Hemus-Towsey Trio, "Sylvia" (Delibes).  
8.39: Talk on "Old New Zealand: Tales of Maori Conflicts," by Mr. A. B. Chappell.  
8.51: Violin solos—Miss Ina Bosworth, (a) "Liebeslied" (Kreisler); (b) "Pilichinelle" (Kreisler).  
8.57: Relay of vocal interlude from Majestic Theatre.  
9.1: Weather forecast.  
9.3: Cornet solos—Mr. F. Bowes, (a) "Cavatina" ("Roberto Il Diavolo") (Meyerbeer); (b) "Kathleen Mavourneen" (Crouch).  
9.11: Excerpts from "Carmen," by Bizet, produced under the direction of Madame Irene Ainsley. Cast: Carmen, Madame Irene Ainsley; Michaela, Miss Nancye Hanna; Don Jose, Mr. Robert Peter; Escamillo, Mr. Jas. De Montalk; and chorus.

Act I.  
The daring dark-eyed gipsy girl has left her kinsfolk and is working in Seville. Troopers are resting in the Square. The cigarette girls come out. There is much chaff and flashing of eyes. Only Don Jose takes no heed. This is enough for Carmen. Singing the Habanera, she tries her wiles, and finally flings him a red cassia flower from her bosom. At this, the Spanish officer flares up. A peasant, Michaela, arrives with news for Jose. The interview is suddenly interrupted. Carmen, it appears, has quarrelled with another girl and stabbed her. Don Jose is called upon, and arrests Carmen. But he stands little chance against Carmen when she sings the Seguidilla to him. He allows her to escape, and is, in turn, arrested and sent to prison.

"See the Square," male chorus.

"Cigarette Chorus," ladies' chorus.

"Habanera," Carmen.

"Hear the Midday Bell," male chorus.

"Seguidilla," Carmen and Don Jose.

Instrumental entr'acte—Bosworth-Hemus-Towsey Trio, "Trio in D Major—Andante and Scherzo" (Reinecke).

Act II.

Carmen is back in the tavern of Lillas Pastia, trying her arts upon Escamillo, the famous bull-fighter. But her fancy roams to Don Jose, and when the soldier is released and appears at the tavern there is a passionate love scene. With song and dance, she lures him on to desertion, and he no longer resists the gipsy girl's seductive appeal to flee to the mountains with her and join the smuggler's band.

"The Bohemian Song," Carmen.

"The Toreador Song," Escamillo.

"Smugglers' Quartet," quartet.

"Castenet Song," Carmen and Don Jose.

"Flower Song," Don Jose.

"Away to the Mountains," Carmen and Don Jose, with chorus.

10.0: A thought.

10.2: God Save the King.

## 2YA WELLINGTON (420 METRES)—TUESDAY, MARCH 6.

3 p.m.: Chimes of the General Post Office clock, Wellington.

3.1: Selected gramophone items.

3.30: Lecture—Mrs. Barrington, of Turnbull and Jones, Ltd., "Electric Cooking."

3.45: Selected gramophone items.

5.0: Close down.

6.0: Children's sessions—Uncle Jasper, assisted by Madame Mueller's pupils.

7.0: News session, market reports, and sports results.

7.40: Lecture—Representative, Agricultural Department, "For the Man on the Land."

8.0: Chimes of the General Post Office clock, Wellington.

8.1: Overture—"Prelude to Act III, La Traviata" (Verdi).

8.5: Quartet—The Orpheus, "All in a Garden Fair" (Francis).

8.9: Clarinet—Mr. A. H. Wright, "First Air Varié" (Soler).

8.14: Tenor solo—Mr. Arthur Coe, "To Mary" (White).

8.18: Italian mandolin—Mr. Lad Haywood, (a) "Honolulu Moon" (Lawrence); (b) "When It's Love Time in Hawaii."

8.25: Duet—Mrs. Alice Harris and Mr. Len. Barnes, "Husbands and Wives" (Fraser-Simson).

8.30: Trio—Symons-Ellwood-Short Trio—First Movement Trio in E Flat" (Schubert).

8.40: Humour—Mr. Doug. Stark, "Just Anything You Like" (Anon.).

8.47: Contralto solo and quartet—Miss Lily Mackie and Orpheus Quartet, "I Want to See the Old Home" (Stewart).

8.52: Cello—Mr. Geo. Ellwood, "Ave Maria" (Schubert).

8.57: Baritone—Mr. Len. Barnes, "Mine Enemy" (Rudd).

9.2: Weather report.

9.3: Clarinet solo—Mr. A. H. Wright, "Alicante Fantasia" (Le Thiere).

9.9: Soprano solo—Mrs. Alice Harris, "Love is Life" (Fraser-Simson).

9.14: Trio—Symons-Ellwood Short Trio, "Second Movement Trio in E Flat" (Schubert).

9.24: Sketch—Messrs. Doug. Stark and Len. Barnes, "O Doctor" (original).

9.30: Quartet—The Orpheus Quartet, "Bovine Barcarolle" (Montague).

9.34: Cello—Mr. Geo. Ellwood, "Arlequin" (Popper).

9.39: Humour—Mr. Doug. Stark, "When I Meet MacKay" (Lauder).

9.45: Contralto solo—Miss Lily Mackie, "Dreams of the Dusk" (D'Hardelot).

9.49: Italian mandolin—Mr. Lad Haywood, (a) "The Birth of the Blues" (De Sylva and Henderson); (b) "So Blue" (Berlin).

9.56: Tenor—Mr. Arthur Coe, "A Farewell" (Liddle).

## 3YA CHRISTCHURCH (306 METRES)—TUESDAY, MARCH 6.

SILENT DAY.

## 4YA DUNEDIN (463 METRES)—TUESDAY, MARCH 6.

3 p.m.: Town Hall chimes.

3.1: His Master's Voice recital.

3.30: News and social notes.

3.40: Studio music.

4.0: Talk on the "Domestic Uses of Electricity," by a representative of Turnbull and Jones.

4.15: His Master's Voice recital.

4.30: Close down.

6.0: Town Hall chimes.

6.1: Children's hour—Big Brother Bill and cousins.

7.15: News session.

7.30: Talk on "Tourist Resorts," by Mr. Marshall.

8.0: Town Hall chimes. Concert by the Kaikorai Band, under the baton of Mr. E. Franklin, assisted by 4YA artists.

8.1: March—Band, "Half and Half" (Morrison).

8.5: Overture—Band, "Light Cavalry" (Suppe).

8.13: Tenor solo—Mr. Frank Stewart, (a) "Starlight" (from "The Garden of Kama" (Hermann); (b) "I Know a Lovely Garden" (D'Hardelot).

8.19: Recital—Miss Madge Yates, "If" (Kipling).

8.33: Humoresque—Band, "Musical Switch" (Alford).

8.35: Mezzo-soprano solos—Miss Christina Green, L.R.A.M., (a) "As I Walked Through the Meadows" (arr. Sharp); (b) "The Saucy Sailor" (arr. Sharp).

8.41: Humorous recital—Mr. Carl Moller, "The Chairman's Remarks."

8.47: Waltz—Band, selected.

8.54: Baritone solo—Mr. R. B. Macdonald, "Prologue" from "Pagliacci" (Leoncavallo).

9.0: Weather forecast.

9.2: Selection—Band, "Un Ballo in Maschero" (Verdi).

9.18: Tenor solo—Mr. Frank Stewart, "The Star" (Roger).

9.22: Recitals—Miss Madge Yates, (a) "Playmate" (Campbell); (b) "The Ghost Story."

9.32: Xylophone duet—Band, "Ida and Dot" (Losey).

9.40: Mezzo-soprano solo—Miss Christina Green, "Shepherd's Cradle Song" (Somerville).

9.43: Humorous recitals—Mr. Carl Moller, (a) "Presentation of Prizes"; (b) "Joe Murgarroyd Says."

9.48: March—Band, "Turkish Patrol."

9.54: Baritone solos—Mr. R. B. Macdonald, (a) "Calf of Gold" (Gounod); (b) "Sword of Ferera" (Field-Bullard).

10.2: March—Band, "The Washington Greys" (Goafulla).

10.6: God Save the King.

## Wednesday, March 7th

### 1YA AUCKLAND (333 METRES)—WEDNESDAY, MARCH 7.

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

4.0: Literary selection by Mr. Culford Bell.

4.30: Close down.

6.0: Children's hour—Uncle Tom.

7.15: News and reports.

8.0: Chimes.

8.1: Relay of municipal concert from Town Hall, assisted by the Hazell-Sutherland Duo, who will broadcast the following items from the studio:—

Contralto solos—Miss Phyllis Hazell, (a) "Ave Maria" (Kahn); (b) "Lullaby" (Scott).

Baritone solos—Mr. Frank Sutherland, (a) "The Skipper of the Mary Jane" (Richards); (b) "Arm, Arm, Ye Brave" (Handel).

Vocal duets—Hazell-Sutherland Duo, (a) "I Love the Moon" (Rubens); (b) "Very Own Pierrot" (Allingham).

10.0: A thought.

10.2: Close down.

### 2YA WELLINGTON (420 METRES)—WEDNESDAY, MARCH 7.

SILENT DAY.

### 3YA CHRISTCHURCH (306 METRES)—WEDNESDAY, MARCH 7.

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

4.30: Close down.

6.0: Children's hour—Uncle Peter and Mother Hubbard, birthday greetings, stories, and songs.

7.15: Addington stock market report.

7.30: News and reports.

8.0: Chimes. Relay of orchestral music from Grand Picture Theatre Orchestra, under the conductorship of Mrs. K. Black.

8.15: Baritone solos—Mr. A. G. Thompson, (a) "For the Green" (from "Songs of Four Irish Lyrics" (Lohr); (b) "So Fair a Flower" (Lohr).

8.19: Violin solo—Miss Irene Morris, "Boat Song" (Ware).

8.24: Soprano solo—Miss Mary Shaw, A.R.C.M., "You Loved the Time of Violets" (from "Songs of the Norseland") (Lohr).

8.27: Recital—Mr. J. R. Lester, "The New Recruit" (M.S.).

8.32: Banjo solo—Mr. Arthur Hodgson, (a) "Collette" (Barr); (b) "Moonlit Waters" (M.S.).

8.38: Contralto solo—Miss Nellie Lowe, "Time Was I Roamed the Mountains" (Lohr).

8.42: Instrumental trio—Christchurch Broadcasting Trio, "Andante and Scherzo" (Reissiger).

8.55: Vocal duet—Misses Mary Shaw and Nellie Lowe, "Where my Caravan has Rested" (Lohr).

8.59: Weather forecast.

9.0: Relay of orchestral music from Grand Picture Theatre.

9.15: Baritone solo—Mr. A. G. Thompson, "Nelson's Gone a-sailing" (Lohr).

9.19: Violin solo—Miss Irene Morris, "Allegretto" (Boccherini-Kreisler).

9.24: Soprano solo—Miss Mary Shaw, A.R.C.M., "Life Has Sent Me Many Roses" (from "Songs of Rumania") (Lohr).

9.27: Humorous recital—Mr. J. R. Lester, "Touches of Light Humour" (M.S.).

9.32: Banjo solo—Mr. Arthur Hodgson, "Darkie Land Fantasia" (arr. Read).

9.39: Contralto solo—Miss Nellie Lowe, "Youth Has a Happy Tread" (Lohr).

9.43: Instrumental trios—Christchurch Broadcasting Trio, (a) "Cavatina" (Raff); (b) "Graesk Festdars" (Glinka).

9.55: Vocal duet—Miss Nellie Lowe and Mr. A. G. Thompson, "The Day Is Done" (Lohr).

### 4YA DUNEDIN (463 METRES)—WEDNESDAY, MARCH 7.

SILENT DAY.

## Thursday, March 8th

### 1YA AUCKLAND (333 METRES)—THURSDAY, MARCH 8.

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

4.0: Literary selection by the Announcer.

4.30: Close down.

6.0: Children's hour—Peter Pan.

7.15: News and reports, book review.

8.0: Chimes.

8.1: Relay of orchestral overture from Strand Theatre, under the conductorship of Eve Bentley.

8.16: Soprano solo—Miss Lola Solomon, "Down Vauxhall Way" (Oliver).

8.20: Pianoforte solos—Mrs. H. Morton, popular selections.

8.25: Baritone solos—Mr. H. Barry Coney, (a) "The Early Morning" (Peel); (b) "Wander Thirst" (Peel).

8.32: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio in C Minor—Andante Molto Cantabile and Allegro Assai" (Max Bruch).

8.41: Contralto solos—Miss Mina Caldwell, (a) "The Marriage of Roses" (Franck); (b) "The Gathered Rose" (Franck).

8.47: Vocal solos, with guitar accompaniment—Nell the Bohemian, (a) "Take This Rose"; (b) "Sleepy Head."

8.52: Talk on "The Origin of the Maori," by Mr. Geo. Graham.

9.4: Weather forecast.

9.6: Relay of orchestral interlude from Strand Theatre.

9.16: Cello solo—Miss Lalla Hemus, "Dance Rustique" (Squire).

9.20: Soprano solos—Miss Lola Solomon, (a) "Solweig Song" (Grieg); (b) selected.

9.27: Instrumental trios—Bosworth-Hemus-Towsey Trio, (a) "Serenade" (Widor); (b) "Naila" (Delibes).

9.35: Baritone solo—Mr. H. Barry Coney, "Songs, My Mother Sang" (Grimshaw).

9.39: Pianoforte solo—"Jazz Medley."

9.44: Contralto solos—Miss Mina Caldwell, (a) "The Star" (Phillips); (b) "A Request" (Finden).

9.50: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio in C Minor—Presto" (Max Bruch).

9.56: Vocal solos with guitar accompaniment—Nell the Bohemian, (a) "I've Fallen in Love With a Voice"; (b) "Consolation."

10.0: A thought.

10.2: God Save the King.

### 2YA WELLINGTON (420 METRES)—THURSDAY, MARCH 8.

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

3.1: Selected gramophone items.

5.0: Close down.

6.0: Children's hour—Uncle Sandy.

7.0: News session, market reports, and sports results.

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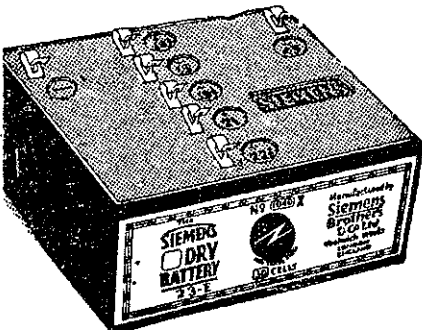
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Operating from the roof of W. H. Knight and Peter Bros.' showroom in Launceston, station 7UX was recently heard in America. Mr. Steane, who operated the transmitter, claims to have established a record for long distance transmission of telephony, using low power, since receiving the following letter from Mr. W. McDonald, of Chula Vista, California:—"Early this morning I tuned in a station giving its call sign as 7UX. The time corresponded with 10 p.m. in Australia. The station transmitted musical items for about an hour, and I should be glad to know if this was your transmission." At the time 7UX was using power of the order of 20 watts, which makes the feat all the more remarkable, since the normal night range of a 200 metre station using this power is from 500 to 1000 miles. This is the second time that the Tasmanian station has been heard in U.S.A.

The Berlin broadcast station shortly intends to make an experiment in the transmission of a complete opera in which the principal songs, duets, and quartets will be given from gramophone records, the whole production to be linked together by the station orchestra. By this means, points out the London "Amateur Wireless," it is thought possible to produce a radio version of a famous opera to which famous singers, both dead and living, will contribute.

Mr. Clement Hosking, musical director of 2GB, the Theosophical Society's Sydney station, states:—"We are constantly being asked to perform jazz, but we do not feel that jazz is particularly inspiring, and simply refuse to comply with these requests. Before long we hope to have plenty of good, clean humour."



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# FADA Radio

# Programmes Continued

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- 7.40: Lecturette—Mr. C. O. Jorgensen, "Massage and Exercises of the Greeks."  
8.0: Chimes of the G.P.O. clock.  
8.1: Overture—Central Mission Band, "Port Lincoln March" (Ord Hume).  
8.6: A sady story—Mellow Fellows Quartet, "Lay My Head Beneath a Rose" (Falkenstein).  
8.11: Brass quartet—Messrs. McPherson, L. and W. Baker and Smith, "Wendourie" (Ord Hume).  
8.16: A sadder story—The Basest Fellow, "A Chip of the Old Block" (Squire).  
8.20: Selection—Central Mission Band, "Compositions by Spohr" (Ord Hume).  
8.34: Vocal solo—The Tenor Fellow, "Eleanore" (Coleridge-Taylor).  
8.38: Waltz—Central Mission Band, "River of Pearls" (Rimmer).  
8.43: Vocal quartet—Mellow Fellows, "Love's Old Sweet Song" (Parks).  
8.47: Selection—Central Mission Band, "John Peel" (Greenwood).  
8.58: Weather forecast.  
9.0: Lecturette on "Native Birds," by a representative of the Bird Protection Society.  
9.10: March—Central Mission Band, "Silver Wood" (Hawkins).  
9.15: Baritone solo—The Middle Fellow, "When Song is Sweet" (Sans-Souci).  
9.20: Fantasia—Central Mission Band, "Adeste Fideles" (Round).  
9.32: The Sober Truth—The Jolly Little Fellow, "In Trouble Again" (Foy).  
9.39: Vocal duet—The Long and Short Fellow, "We Two Together."  
9.44: Fox-trot—Central Mission Band, "The Lancashire Belle" (Lafont).  
9.50: Mixed finale—All the Fellows, "Cause I'd Nothing Else To Do" (Molloy).  
9.56: March—Central Mission Band, "Full of Go" (Hutcheson).

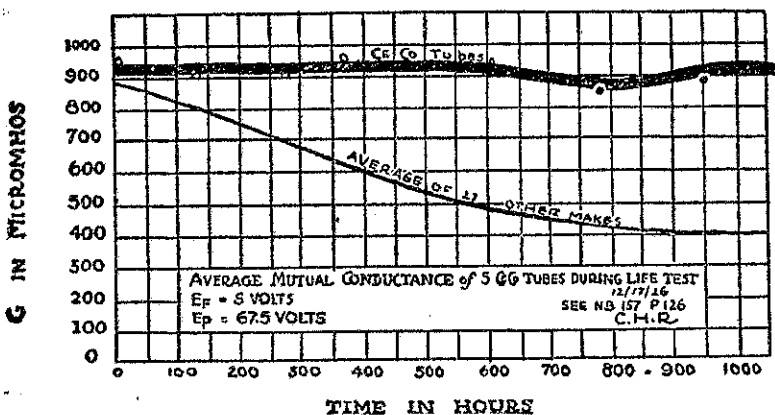
## 8YA CHRISTCHURCH (306 METRES)—THURSDAY, MARCH 8.

- 3 p.m.: Afternoon session—Selected studio items.  
4.30: Close down.  
6.0: Children's hour—Chuckie, assisted by cousins from West Christchurch School. Birthday greetings, stories, and songs.  
7.15: News and reports.  
8.0: Relay of orchestral music from Liberty Picture Theatre Orchestra, under the conductorship of Mr. Ernest Jamieson.  
Madame Gower-Burns's Grand Opera Quartet present a song cycle, "In a Persian Garden" (Liza Lehmann), with instrument accompaniment by the Christchurch Broadcasting Trio.  
8.20: Mixed quartet—Grand Opera Quartet, "Wakel For the Sun Who Scattered into Flight" (Lehmann).  
Tenor solo—Mr. Harold Prescott, "Before the Phantom of False Morning Died" (Lehmann).  
Recital—Miss Lucy Cowan, "When the Sultan Goes to Ispahan" (Aldrich).  
Recitative—Mr. Bernard Rennell, "Now the New Year Reviving Old Desires" (Lehmann).  
Tenor solo—Mr. Harold Prescott, "Iran, Indeed Is Gone With All His Rose" (Lehmann).  
Pianoforte solo—Miss Aileen Warren, "Andante from Concerto" (Mendelssohn-Paner).  
Mixed quartet—Grand Opera Quartet, "Come, Fill the Cup, and in the Fire of Spring" (Lehmann).  
Baritone solo—Mr. Bernard Rennell, "Whether at Naishapur or Babylon" (Lehmann).  
Instrumental trio—Christchurch Broadcasting Trio, "Prelude Tempo di Menuetto from Suite, Op. 35" (Parker).  
Contralto recitative—Miss Jessie King, "Ah! Not a Drop that from Our Cups We Throw" (Lehmann).  
Contralto solo—Miss Jessie King, "I Sometimes Think that Never Blows So Red" (Lehmann).  
Vocal duet—Madame Gower-Burns and Mr. Harold Prescott, "A Book of Verses Underneath the Bough" (Lehmann).  
Baritone solo—Mr. Bernard Rennell, "Myself When Young did Eagerly Frequent" (Lehmann).  
Recitative—Mr. Bernard Rennell, "Ah! Make the Most of What We Yet May Spend" (Lehmann).  
Contralto solo—Miss Jessie King, "When You and I Behind the Veil are Past" (Lehmann).  
Soprano recitative—Madame Gower-Burns, "But If the Soul Can Fling the Dust Aside" (Lehmann).  
Pianoforte solo—Miss Aileen Warren, "Air de Ballet" (Chaminade).  
Soprano solo—Madame Gower-Burns, "I Sent My Soul Through the Invisible" (Lehmann).  
Tenor solo—Mr. Harold Prescott, "Alas, that Spring Should Vanish with the Rose" (Lehmann).  
Contralto solo—Miss Jessie King, "The Worldly Hope Men Set Their Hearts Upon" (Lehmann).  
Instrumental trios—Christchurch Broadcasting Trio, (a) "Moment Musical" (Schubert); (b) "Melodie" (Moskowski); (c) "Dance Bohemienne" (Hayward).  
Soprano solo—Madame Gower-Burns, "Each Morn a Thousand Roses Brings You Say" (Lehmann).  
Mixed quartet—Grand Opera Quartet, "They Say the Lion and the Lizard Keep" (Lehmann).  
Recitative—Mr. Harold Prescott, "Ah! Fill the Cup, What Boots it to Repeat" (Lehmann).  
Tenor solo—Mr. Harold Prescott, "Ah, Moon of My Delight that Knows No Wane" (Lehmann).  
Recital—Miss Lucy Cowan, "The Sufi in the City" (Newbolt).  
Baritone solo—Mr. Bernard Rennell, "As then the Tulip for her Morning Sup" (Lehmann).  
Mixed quartet—Grand Opera Quartet, "Alas! That Spring Should Vanish with the Rose" (Lehmann).  
God Save the King.

## 4YA DUNEDIN (463 METRES)—THURSDAY, MARCH 8.

- 7 p.m.: Town Hall chimes.  
7.1: Request gramophone concert.  
7.30: News session.  
8.0: Town Hall chimes.

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A wireless and travel exhibition is to be held at Bandoeng, Java, during June and July, 1928. The introduction of the wireless element is due to the wireless boom which is now sweeping the country, consequent upon the recent law permitting private ownership of receiving sets.

Difficulty is sometimes experienced in drilling holes in sheet metal used for interstage screening, especially if the material is thin. As a rule, it will be found better to punch the hole; provided a soft metal, such as copper or aluminium, is used, there is no need for any special tool, as a rod of steel or even brass, with one end filed square, will serve quite well. It is essential, however, that the sheet in which the hole is to be made should be rested on the end grain of a piece of hardwood or similar material.

Mr. C. A. Blackington, of Wrangell, Alaska, reports to the New York "Radio News" that he has heard 2YA, Wellington, 8YA, Christchurch, and 1YA, Auckland. A photograph of his set was published in the "Radio Record" some months back.

Speaking to an interviewer in New York a few weeks ago, Marconi, referring to the benefit of short waves to the man with a receiving set in his home, said "Short waves are beginning to show unhoped for results in improving broadcasting by making it workable over great distances, even during daylight hours. And directive (beam) methods will soon be utilised for broadcasting by enabling programmes and speeches to be sent over large portions of America and to foreign countries, with much more strength and freedom from interference than is possible now."

Arthur T. Brown, writing in the New York "Radio News," says: "People do listen to religious broadcasts—indeed, according to investigations made by some of the larger stations, these come next, after music, in popularity. That this is so need surprise no one. Religion, whether it be the faith handed down through the Christian centuries—not to mention the Jewish, centuries before them—or some faith so new its official stationery has not yet come from the printer, is, next after bread and butter on the one hand, and love on the other, the most engrossing of human interests. It is so because we all live by faith, even though our faith be only the minimum of the agnostic, viz., that human intelligence is entirely inadequate to receive ultimate truth."

All radio listeners in Australia (says the Sydney "Wireless Weekly"), use the broadcasting stations for the purpose of setting their clocks and watches; most jewellers and watchmakers rely on the broadcast time signals to give them the exact time. The practice of broadcasting the British time signals, however, seems to be upsetting calculations, because a few nights ago the striking of Big Ben, London, was heard over the air, and at the same time our own Sydney G.P.O. clock was heard to strike. The curious thing was that there was a difference of 15 seconds between the two clocks, and as the Sydney clock is always correct to within 5 seconds, Big Ben must have been at least ten seconds out, possibly more. Of course, Big Ben is 10 hours behind us in any case—a fact which was a surprise to many listeners in Australia when they first heard him over the radio.

A loose contact at the grid leak may be the origin of troublesome and mysterious noises, often hard to locate. To prevent such troubles, the best plan is to bend the clips of the grid leak holder inward with a pair of pliers. This will insure a tight grip and positive contact, and hence there will be no chance of noises originating at this point.

It was reported from Washington on January 5.—"Wired Radio, Inc., of 60 Broadway, New York City, has applied to the Federal Radio Commission for permission to rebroadcast programmes over electric lighting systems. The commission responded that the application cannot be granted prior to the short wave hearings scheduled for January 17, since use of short waves is involved in the application. The request was for permission to use three frequencies in the band commencing with 1500 kilocycles. Programmes would be picked up in New York and transmitted by wire to listeners. The commission regards the application with much interest, since it may offer prospects for a new radio system. If electric lighting systems are used and the plan should become popular, it was declared, the way might be opened for charging users of programmes to broadcast."

The Westralian station, GWF, Perth, may be heard in New Zealand without the bother of installing a set which will tune to 1250 metres. Dual transmissions are being carried out on the usual wavelength and on 101.5 metres. On the low wave New Zealand listeners should have no difficulty in logging GWF on a three-valve receiver. The transmissions are excellent, modulation being very nearly perfect. The only trouble is that the static which is prevalent on these wavelengths at this time of the year interferes occasionally. The station is usually passed over as a harmonic of one of the broadcasters, and this is probably the reason why the transformers are received here by so few short wave listeners.

- 8.1: Relay of light orchestral music from the Octagon Theatre, under the conductorship of Mr. L. D. Austin.  
8.11: Contralto solos—Miss Dorothy Skinner, (a) "Home Song" (Liddle); (b) "A Request" (Woodford-Finden).  
8.17: Bass solo—Mr. F. C. Cooper, "The Curfew" (Gould).  
8.21: Piano solos—Miss Marjorie Watts, (a) "Romance in D Flat" (Sibelius); (b) "Valse No. 10" (Chopin).  
8.30: Mezzo-soprano solo—Miss Agnes Guy, "Tip-toe" (Carew).  
8.33: Baritone solos—Mr. L. M. Cachemaille, (a) "The Lute Player" (Allitsen); (b) "Eleanore" (Coleridge-Taylor).  
8.40: Saxophone solo—Mr. J. McCaw, "Valse Erica" (Wiedoeft).  
8.45: Relay of orchestral music from the Octagon Theatre.  
8.55: Address by Pastor W. D. More.  
9.11: Contralto solo—Miss Dorothy Skinner, "Ships of Arcady" (Head).  
9.12: Bass solos—Mr. F. C. Cooper, (a) "Prince Ivan's Song" (Allitsen); (b) "So Fair a Flower" (Lohr).  
9.19: Piano solo—Miss Marjorie Watts, "Liesbeslied" (Schumann-Liszt).  
9.25: Mezzo-soprano solos—Miss Agnes Guy, (a) "A Spirit Flower" (Tip-ton); (b) "I Hear a Thrust at Eve" (Cadman).  
9.31: Baritone solo—Mr. L. M. Cachemaille, "Mia Picciarella" (Gomes).  
9.35: Saxophone solos—Mr. J. McCaw, (a) "When You and I Were Young, Maggie" (Butterfield); (b) "The Butterfly" (Bendix).  
9.45: Relay of orchestral music from the Octagon Theatre.  
10.0: Close down.

## Friday, March 9th

### 1YA AUCKLAND (333 METRES)—FRIDAY, MARCH 9.

- 3 p.m.: Afternoon session—Selected studio items.  
4.0: Literary selection by the Announcer.  
4.30: Close down.  
6.0: Children's hour—Nod.  
7.15: Talk on "Motoring," by Mr. Geo. Campbell.  
7.30: News and reports.  
8.0: Chimes.  
8.1: Relay of orchestral overture from Rialto Theatre, under the conductorship of Mr. Henry C. Engel.  
8.16: Vocal quartet—Madame Mary Towsey's Quartet, "An Evening's Pastoral" (Shaw).  
8.21: Baritone solo—Mr. John Bree, "Alone" (Lohr).  
8.25: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio in D Minor—Op. 49, First Movement" (Mendelssohn).  
8.35: Contralto solo—Miss Gwendyth Evans, "Sink, Red Sun" (Del Riego).  
8.39: Cornet duo—Messrs. Davies and Salthouse, "Friendly Rivals."  
8.44: Tenor solo—Mr. Rose, "Now Sleeps the Crimson Petal" (Quilter).  
8.48: Piano solo—Mr. C. Towsey, "Prelude in G Minor" (Rachmaninoff).  
8.53: Elocutionary—Mr. J. F. Montague, "A Little Shakespeare" (Shakespeare).  
8.59: Weather forecast.  
9.1: Relay of orchestral interlude from the Rialto Theatre.  
9.16: Soprano solo—Madame Mary Towsey, "Annie Laurie" (Lehmann).  
9.20: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Valse des Fleurs" (Tschaiakowsky).  
9.28: Baritone solo—Mr. J. Bree, "Floral Dance" (Moss).  
9.33: Cornet duos—Messrs. Davies and Salthouse, (a) "Macheta"; (b) selected.  
9.40: Vocal duet—Madame Towsey and Miss Evans, "When Song Is Sweet" (Sans Souci).  
9.44: Elocutionary—Mr. J. F. Montague, (a) a group of children's poems; (b) "Fagin" (a Dickens sketch).  
9.53: Tenor solo—Mr. Rose, "The Song of the Bow" (Aylward).  
9.57: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio in D Minor—Op. 49, Second Movement" (Mendelssohn).  
10.4: Vocal quartet—Madame Mary Towsey's Quartet, "The Rosary" (Nevin).  
10.8: A thought.  
10.10: God Save the King.

### 2YA WELLINGTON (420 METRES)—FRIDAY, MARCH 9.

- 3 p.m.: Chimes of the G.P.O. clock.  
3.1: Selected gramophone items.  
3.30: Lecturette on "Gas Cooking," by Miss Christian, of the Wellington Gas Company.  
3.45: Selected gramophone items.  
5.0: Close down.  
6.0: Children's hour—Uncle Ernest.  
7.0: News session, market reports, and sports results.  
7.40: Lecturette—Mr. Stanley W. Fearn, A.R.I.B.A., "Architecture."  
8.0: Chimes of the G.P.O. clock.  
An Evening of Old English Vocal Music.  
8.1: Overture—"Rosamunde" (Schubert).  
8.5: Vocal quartet—Ariel Singers, (a) "Now is the Month of Maying" (Morley); (b) "Sleep, Gentle Lady" (Bishop).  
8.11: Humour—The Two Boiled Owls, "At the Theatre" (Anon.).  
8.18: Instrumental trio—Symons-Ellwood-Short Trio, "Third Part Dumky" (Dvorak).  
8.28: Tenor solo—Mr. Roy Hill, "My Pretty Jane" (Bishop).  
8.32: Hawaiian duos—Messrs. Berthold and Bent, (a) "Bells of Hawaii" (Heagney); (b) "Oh, If I Only Had You" (Friend).  
8.40: Soprano solo—Miss Jeanette Briggs, "A Pastoral" (Hook).  
8.44: Pianoforte solo—Mr. Gordon Short, "Raindrop Prelude" (Chopin).  
8.50: Vocal duets—Messrs. Roy Hill and J. M. Caldwell, (a) "It Was a Lover and His Lass"; (b) "Sigh No More, Ladies" (old songs arranged by C. M. Haydon).  
8.58: Weather forecast.  
9.0: Lecturette on "Imperial Affairs," by the Editor-Announcer.  
9.10: Mezzo-contralto solo—Miss Ngaire Coster, "Early one Morning" (traditional).  
9.14: Instrumental trio—Symons-Ellwood-Short Trio, "Third and Fourth Movements, Trio in E Flat" (Schubert).  
9.24: Madrigal—Ariel Singers, "April Is In My Mistress's Face" (Morley).  
9.28: Rendition—The Two Boiled Owls, "High, High, High Up in the Hills" (Abrahams).  
9.34: Bass solo—Mr. J. M. Caldwell, "Care Flies" (Arne).  
9.38: Pianoforte solo—Mr. Gordon Short, "Valse Brillante, Op. 34" (Chopin).  
9.42: Soprano solo—Miss Jeanette Briggs, "The Loyal Lover" (folk song).  
9.47: Hawaiian duos—Messrs. Berthold and Bent, (a) "Drowsy Waters" (M.S.); (b) "Charmaine" (Raupee).  
9.55: Vocal quartets—Ariel Singers, (a) Britons, Strike Home" (Purcell); (b) "The Lass of Richmond Hill" (arr. Crampton).

### 3YA CHRISTCHURCH (306 METRES)—FRIDAY, MARCH 9.

- 3 p.m.: Afternoon session—Selected studio items.  
4.30: Close down.  
6.0: Children's session—Big Brother, birthday greetings, stories, and a merry band of singers from the Fendalton School in part-songs and glees.  
7.15: News and reports.  
8.0: Chimes. Relay of orchestral music from Crystal Palace Picture Theatre Orchestra, under the conductorship of Mr. W. A. Bunz.  
The Melodious Four in a Night of Sea Chanties and Sea Songs.  
8.15: Choruses—Melodious Four, (a) "Haul on the Bowline"; (b) "A-roving"; (c) "He Back, She Back" (all arranged by Cecil Sharpe).  
8.24: Soprano solo—Miss Frances Hamerton, L.A.B., "Loreley" (Liszt).  
8.27: Recital—Mr. James Launcson, "The Amateur Poultry-keeper" (hints to poultry-keepers) (Wright).  
8.33: Bass solo—Mr. T. D. Williams, "The Storm Fiend" (Roedel).  
8.37: Instrumental trio—Christchurch Broadcasting Trio, (a) "Russian Waltz" (Bridge); (b) "Horn Pipe" (Bridge); (c) "March Militaire" (Bridge).  
8.48: Tenor solo—Mr. Russell Sumner, "The Sea Gypsy" (Willeby).  
8.52: Trumpet solos—Mr. Wm. Bailey, (a) "Once Again" (Sullivan); (b) "Song of the Wanderer" (Donaldson).  
8.56: Contralto solo—Miss Belle Renaut, "Song of the Sea" (Quilter).  
9.0: Weather forecast.  
9.1: Relay of orchestral music from the Crystal Palace Picture Theatre Orchestra.  
9.10: Choruses—Melodious Four, (a) "Good Morning, Ladies All"; (b) "The Hog-eyed Man"; (c) "Shanadar" (Sea Chanties) (all arr. by Sharpe).



# Programmes Continued

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- 9.19: Tenor solo—Mr. Russell Sumner, "Sea Fever" (Ireland).  
9.23: Humorous recital—Mr. James Laurensen, "O'Hara, J.P." (a story of country town life in Australia) (Lawson).  
9.28: Contralto solo—Miss Belle Renaut, "A Sea Song" (Moncton).  
9.31: Instrumental trios—Christchurch Broadcasting Trios, (a) "Peaceful Slumbering" (Storace); (b) "Water Parted from the Sea" (Arne).  
9.43: Trumpet solos—Mr. W. Bailey, (a) "Non E'er" (Matti); (b) "Indian Love Call" (Friml).  
9.50: Baritone sea songs—Mr. T. D. Williams, (a) "Port of Many Ships" (Keel); (b) "Trade Winds" (Keel); (c) "Mother Cary" (Keel).  
9.58: Sea chanty choruses—Melodious Four, (a) "In Frisco Bay"; (b) "Won't You Go My Way"; (c) "Tiddy I-O" (all arr. by Sharpe).  
God Save the King.

## 4YA DUNEDIN (463 METRES)—FRIDAY, MARCH 9.

- 3 p.m.: Town Hall chimes.  
3.1: His Master's Voice recital.  
3.15: Talk on "Fashions," by a representative of the D.I.C.  
3.30: Afternoon tea music, relayed from the Savoy.  
3.40: Studio music.  
4.0: Music from the Savoy.  
4.15: His Master's Voice recital.  
4.30: Close down.  
6.0: Children's hour—Big Brother Bill and Young People's Choir.  
7.15: News session.  
7.30: Address on "Successful Poultry-raising," under the auspices of the Dunedin Egg Circle.  
8.0: Town Hall chimes.  
8.1: Bass solos—Mr. Neil Black, (a) "The Trumpeter" (Dix); (b) "Come, Sing to Me" (Thompson).  
8.8: Soprano solo—Mrs. D. Carty, "Duncan Gray."  
8.12: Piano solos—Mr. Gordon Findlay, (a) "Grand Polonaise Heroique" (Pieczonka); (b) "Contra Tanza III" (Beethoven).  
8.22: Baritone solos—Mr. Bert Rawlinson, (a) "The Fishermen of England" from "The Rebel Maid" (Phillips); (b) "Home Again" from "The Rebel Maid" (Phillips).  
8.29: Contralto solo—Miss Flora Williamson, "Vorrei" (Tosti).  
8.32: Guitar duets—Messrs. Sheehy and Campbell, (a) "Neath Hawaiian Skies" (Heagney); (b) "Honolulu Lullaby" (Reed).  
8.38: Bass solo—Mr. Neil Black, "Echo" (Somerset).  
8.42: Soprano solos—Mrs. D. Carty, (a) "Where the Hills of Ben Lomond" (Gray); (b) "To a Miniature" (Brahe).  
8.48: Piano solo—Mr. Gordon Findlay, "Country Gardens" (Grainger).  
8.52: Contralto solos—Miss Flora Williamson, (a) "Morning" (Speaks); (b) "Ye Banks and Braes."  
8.57: Guitar duet—Messrs. Sheehy and Campbell, "Drifting and Dreaming."  
9.4: Baritone solo—Mr. Herbert Rawlinson, "Ho, Jolly Jenkins" from "Ivanhoe" (Sullivan).  
9.10: Relay of dance music from the Savoy.  
10.0: Close down.

## Saturday, March 10th

### 1YA AUCKLAND (333 METRES)—SATURDAY, MARCH 10.

- 3 p.m.: Afternoon session—Selected studio items.  
4.0: Literary selection by the Announcer.  
4.30: Close down.  
6.0: Children's hour—Cinderella.  
7.15: News and sports results.  
7.45: Close down.  
8.0: Chimes.  
8.1: Relay of orchestral overture from Strand Theatre, under the conductorship of Eve Bentley.  
8.16: Baritone solo—Mr. Dudley Wrathall, "Mountains of Mourne" (Collisson).  
8.20: Instrumental duo—Le Pali Duo, Hawaiian melodies (M.S.).  
8.25: Soprano solo—Miss Dorothy Youd, "A Spirit Flower" (Tipton).  
8.30: Piano sketch—Mr. Headlam Greenhow, "The Village Orchestra" (original).  
8.35: Relay of orchestral interlude from Strand Theatre.  
8.45: Vocal duets—Miss D. Youd and Mr. D. Wrathall, selections from musical comedy, "Maytime," including "Sweetheart" and "Our Little Home."  
8.54: Instrumental duos—Le Pali Duo, (a) novelty fox-trot medley; (b) popular airs.  
9.0: Weather forecast.  
9.2: Piano sketch—Mr. H. Greenhow, "Three Blind Mice" (original).  
9.7: Vocal duets—Miss D. Youd and Mr. D. Wrathall, selections from musical comedy, "A Maid of the Mountains," including "Love Will Find a Way," "A Paradise for Two," "A Bachelor Gay," "My Life is Love" (Tate).  
9.20: Relay of dance music from Dixieland Cabaret by The Internationals, under the conductorship of Mr. Clyde Howley.  
11.0: A thought.  
11.2: Close down.

### 2YA WELLINGTON (420 METRES)—SATURDAY, MARCH 10.

- 3 p.m.: Chimes of the G.P.O. clock.  
3.1: Selected gramophone items.  
5.0: Close down.  
6.0: Children's hour—Aunts Dot and Gwen.  
7.0: News session, market reports, and information.  
7.15: Sports results.  
8.0: Chimes of the G.P.O. clock.  
8.1: Overture—"Serenade" (Schubert).  
8.5: Vocal harmony—Melodie Four, "Integer Vitae" (Flenning).  
8.9: Novelty pianoforte selection—Mr. James Skedden, "Piano Capers" (Griseffe).  
8.13: Tenor solo—Mr. Sam. Duncan, "A Dream" (Bartlett).  
8.18: Instrumental trio—Symons-Ellwood-Short Trio, "Second and Third Movements, Trio No. 3" (Reissiger).  
8.28: Vocal quartet—Melodie Four, "The Birth of the Blues" (Crowther).  
8.32: Novelty pianoforte selection—Mr. James Skedden, "A Few Moments at the Piano" (Alter).  
8.37: Baritone solo—Mr. R. S. Allwright, "Betty and Johnny" (Coates).  
8.42: Tenor solo—Mr. Frank Bryant, "At Sundown" (Donaldson).  
8.46: Cello and piano—Messrs. Geo. Ellwood and Gordon Short, "Last Movement Duo for Cello and Piano" (Goltermann).  
8.54: Bass solo—Mr. W. W. Marshall, "The Longshoreman" (Adams).  
9.0: Weather forecast.  
9.1: Relay of Charles Dalton's Columbian Solo Six Orchestra from the Columbian Cabaret, Kilbirnie.  
God Save the King.

### 3YA CHRISTCHURCH (306 METRES)—SATURDAY, MARCH 10.

- 6 p.m.: Children's session—Uncle Sam and Aunt May, birthday greetings and stories.  
7.15: News and reports.  
8.0: Chimes. Relay of orchestral music from Everybody's Picture Theatre Orchestra, under the conductorship of Mr. Albert Bidgood.  
8.15: Male quartet—Avonion Minstrels, "But It Is So" (Scott Gatty).  
8.19: Mouth-organ solos—Mr. P. Cole, popular melodies (M.S.).  
8.24: Bass solo—Mr. J. Filer, "Bells of the Sea" (Solomon).  
8.28: Instrumental trios—Christchurch Broadcasting Trio, (a) "Souvenir" (Severne); (b) "Scherzo from C Minor Trio" (Mendelssohn).  
8.38: Tenor solo with chorus—Avonion Minstrels, "Come Where My Love Lies Dreaming" (Foster).  
8.42: Musical monologue—Mr. F. Olds, "The Single Hair" (M.S.).  
8.46: Hawaiian steel guitars and ukulele, Miss Elaine Moody's Hawaiian Trio, (a) "Laughing Rag" (Rose); (b) "Broken-hearted Melody" (M.S.).  
8.51: Burlesque lecture—Mr. Sydney Comfort, "A Rolling Stone Gathers No Moss" (proverb) (White).  
8.56: Popular songs—Mrs. P. S. Lawrence, (a) "Just Like a Butterfly" (Wood); (b) "Forgotten" (waltz song) (O'Hagan).  
9.0: Weather forecast.  
9.1: Relay of orchestral music from Everybody's Picture Theatre Orchestra.  
9.15: Tenor solo with chorus—Avonion Minstrels, "What Good is Good Morning" (Santley).  
9.19: Mouth-organ solos—Mr. P. Cole, popular melodies (M.S.).  
9.25: Part-song, male voices—Avonion minstrels, "An Antique Love Song"

An American authority states that wireless receiving equipment for aeroplanes must be light in weight and very compact, yet be accessible in flight for simple adjustments and occasional replacements of valves. Reception is rendered difficult, not only by the motor and propeller noises, but also is often considerably interfered with by the engine ignition system, which itself acts like a broadly tuned spark transmitter. Interference can be entirely eliminated only by surrounding all parts and wiring of the ignition system with metallic "shielding," grounded at frequent intervals to the engine structure.

Engineers of WCY, Schenectady, are hopeful that the management of 2FC, Sydney, may be interested in transmitting a special short-wave programme for the United States at an hour when more listeners will find it convenient to be at their radio sets. This would mean that Australia must start its programme about 6 a.m.

We in New Zealand are not alone in finding 4QG, Brisbane, badly blurred. An Australian listener writes to the Sydney "Wireless Weekly" as follows: "Say, what's wrong with 4QG modulation? The announcer gets terrible hoarse after 8 p.m. (any kind of set). We poured a bottle of beer down the loudspeaker to give him a drink, but they all seem to suffer the same at 4QG, even the ladies." When is friend Robinson, director of 4QG, going to do something about it?

The Swiss Marconi Company are building a high-powered station (50,000 watts power) for the League of Nations which will be capable of reaching all places in Europe, North Africa and the East.

Instead of soldering the ordinary lug to stranded wire (which operation calls for some skill), it is a better plan to twist the loose strands of the wire together and bend them in the form of a hook. By running solder in between the strands a good lug can be made. The best way to run the solder is to first place a piece of solder on the lug, then hold it over a flame, then the solder will run between the strands, thus making a most efficient lug.

The introduction of a wireless telephony service between ships and the mainland is reported to be under consideration by the German postal authorities. Although the idea is still in the experimental stage, certain tests which have already been made, show that a practical service is quite possible in the future.

By means of a small piece of fuse wire and a short length of ebonite rod, an effective accumulator fuse can be constructed in a few moments. One of the terminal tops is removed and replaced by a short ebonite pillar, and the fuse wire is connected to both the top and bottom of the pillar, the terminal top being screwed upon it.

If your receiving set will not tune down to the shorter wavelengths on the normal broadcast band, you may be missing the programmes that are put on by stations that use wavelengths below three hundred metres. You can get in on these low wavelengths by inserting a 21 plate variable condenser in the aerial circuit. When not in use, the condenser can be short circuited with a piece of bus-bar or a switch.

Where a small variable condenser is shown in the circuit of a short wave receiving set, this can easily be constructed from two halfpennies and two pieces of bus-wire. First sandpaper the halfpennies until they shine, then on each solder a piece of bus-bar, of the square variety. The bus-bar strips should be three inches long. One of them should have the end turned at right angles an inch away from the end that is not soldered to the coin. This is your fixed plate, and is firmly clasped by a terminal screwed to a piece of bakelite. The other coin, which is your moving plate, is held by a movable terminal, in order that it may be moved to and fro from your fixed plate. The leads are taken to the bottoms of the two terminals.



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- 9.29: Instrumental trios—Christchurch Broadcasting Trio, (a) "Blue Danube" (Strauss); (b) "Slavonic" (Dvorak).  
9.39: Popular songs—Mrs. P. S. Lawrence, (a) "Pale Moon"; (b) "A Romance" (desert song) (Romberg).  
9.44: Burlesque lecture—Mr. Sydney Comfort, "A Stitch in Time Saves Nine" (White).  
9.49: Tenor solo—Mr. Ernest Rogers, "Nirvana" (Adams).  
9.53: Hawaiian steel guitars and ukulele, Miss Elaine Moody's Hawaiian Trio, (a) "My Dorothy Waltz" (M.S.); (b) "Hawaii, I'm Lonesome For You" (M.S.).  
9.59: Solo, with male voice quartet—Avonion Minstrels, "Shine, Shine Moon" (Scott).  
Dance music.  
11.0: God Save the King.

## 4YA DUNEDIN (463 METRES)—SATURDAY, MARCH 10.

- 7.15 p.m.: News sessions.  
7.30: Address on "Interior Decoration," by Miss M. Puechegud.  
8.0: Town Hall chimes.  
8.1: Relay of orchestral music from the Empire Theatre, under the conductorship of Mr. Chas. Parnell.  
8.11: Mezzo-soprano solos—Miss Molly Vickers, (a) "Sigh No More, Ladies" (Keel); (b) "Song of Thanksgiving" (Allitsen).  
8.17: Piano solos—Miss Muriel Caddie, (a) "Impromptu in A Flat" (Chopin); (b) "Eglogue" (Liszt).  
8.23: Tenor solo—Mr. D. Fogarty, "The Secret" (Scott).  
8.26: Violin solos—Miss Eva Judd, (a) "Elegie" (Ernst); (b) "Liebeslied" (Wagner).  
8.35: Soprano solos—Miss Edith Morrison, (a) "Chanson de Florian" (Godard); (b) "La Serenata" (Tosti).  
8.42: Flute solo—Mr. Chas. E. Gibbons, "Fra Diavolo" (Auber).  
8.48: Humorous song—Mr. Percy James, "Gives" (Arthurs).  
8.53: Relay of orchestral music from the Empire Theatre.  
9.3: Weather forecast.  
9.5: Mezzo-soprano solo—Miss Mollie Vickers, "Fierce Flames Are Soaring" from "Il Trovatore" (Verdi).  
9.10: Piano solos—Miss Muriel Caddie, (a) "Andantino from Sonata in G Minor" (Schumann); (b) "Quasi Sarabande" (Parry).  
9.16: Tenor solos—Mr. Dan Fogarty, (a) "Molly Bawn" (Lover); (b) "Till Dawn" (Leowe).  
9.23: Violin solos—Miss Eva Judd, (a) "Melody" (Dawes); (b) "Liebeslied" (Kreisler).  
9.29: Soprano solo—Miss Edith Morrison, "Sing, Sweet Bird" (Ganz).  
9.33: Flute solo—Mr. Chas. E. Gibbons, "Il Trovatore No. 2" (Verdi).  
9.40: Humorous songs—Mr. Percy James, (a) "Tut, Tut" (Mills); (b) "No Exactly Original" (Gillespie).  
9.50: Relay of orchestral music from the Empire Theatre.  
10.0: Close down.

## Sunday, March 11th

### 1YA AUCKLAND (333 METRES)—SUNDAY, MARCH 11.

- 3 p.m.: Afternoon session—Selected studio items.  
4.0: Literary selection by Mr. Culford Bell.  
4.30: Close down.  
6.0: Children's hour.  
6.55: Relay of church service from St. Mary's Cathedral. Preacher, Canon P. James; organist, Mr. E. Randall.  
8.30: Relay of municipal organ recital from Town Hall; organist, Mr. Maughan Barnett.  
9.30: A thought.  
9.31: Close down.

### 2YA WELLINGTON (420 METRES)—SUNDAY, MARCH 11.

- 6 p.m.: Children's service, conducted by Rev. R. J. Harry, B.A.  
6.55: Relay of evening service from Church of Christ, Vivian Street. Preacher, Pastor W. G. Carpenter; organist, Miss Phyllis Ladbroke.  
8.30: Studio concert.  
Vocal quartet—The Wm. Renshaw Quartet, "The Day Thou Gavest" (Woodward).  
Instrumental quartet—Symons-Ellwood-String Quartet, "Largo from E Major Quartet" (Haydn).  
Tenor solos—Mr. Wm. Renshaw, (a) "Oit in the Stilly Night" (Irish air); (b) "Believe Me If All Those Endearing Young Charms" (Irish Air).  
Contralto solos—Miss Nora Greene, (a) "The Praise of God" (Beethoven); (b) "Golden Days" (Sullivan).  
Instrumental quartet—Symons-Ellwood String Quartet, "Andantino" (Lemare).  
Soprano solo—Mrs. Amy Dunn, "Home, Sweet Home" (Bishop).

### 3YA CHRISTCHURCH (306 METRES)—SUNDAY, MARCH 11.

- 5.45 p.m.: Children's song service—Uncle Sam, assisted by scholars from the Linwood Congregational Sunday School.  
6.30: Relay of evening service from Trinity Congregational Church. Special Preacher from the New Zealand Congregational Conference—the Rev. Lionel Fletcher. Organ and vocal solos will be given at close of service.  
8.15: Tenor solos—Mr. A. R. Thompson, (a) "Comfort Ye, My People" (Handel); (b) "Every Valley Shall Be Exalted" (Handel).  
8.22: Pianoforte solos—Miss Maud K. Stout, (a) "Hexentanz, B Minor" (Macdowell); (b) "Sous Bois, D Flat Major" (Barratt).  
8.28: Soprano solos—Miss Ella Skurr, (a) "Angels Ever Bright and Fair" (Handel); (b) "Come Unto Him" (Handel).  
8.33: Cornet solo—Mr. Fred Fox, selected.  
8.37: Baritone solo—Mr. A. G. Brown, "The Sailor's Prayer" (Peel).  
8.41: Tenor solos—Mr. A. R. Thompson, (a) "My Task" (Ashford); (b) "The Star of Bethlehem" (Adams).  
8.47: Pianoforte solo—Miss Maud K. Stout, "Rondo Capriccioso, E Minor" (Mendelssohn).  
8.52: Soprano solo—Miss Ella Skurr, "Ave Maria" (Kahn).  
8.56: Cornet solo—Mr. Fred Fox, selected.  
9.0: Baritone solos—Mr. A. G. Brown, "The Fortune Hunter" (Willeby).  
God Save the King.

### 4YA DUNEDIN (463 METRES)—SUNDAY, MARCH 11.

- 5.45 p.m.: Children's song service—Big Brother Bill, assisted by the choristers of the Anglican Cathedral.  
6.30: Relay of service from St. Paul's Cathedral. Preacher, Canon Nevill; organist, Mr. W. E. Heywood, F.R.C.O.  
8.0: Studio concert.  
9.0: Close down.

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WELLINGTON.

# How to Build a Serviceable A Battery Charger

## Reliable Full-Wave Valve Rectification

By "Megohm"

**T**HIS battery charger has been designed to meet the requirements of many readers for a reliable low-tension battery charger. It is quite possible to get a certain amount of success out of home-built chemical rectifiers, but such success is generally only of a fleeting character, and the day of reckoning usually arrives when alternating current is found to have been flowing through the battery for perhaps several hours, and the plates are ruined. Valve rectification has been proved to be the most reliable, and operates without the slightest anxiety to the owner, can be left running all night, and "delivers the goods" just in the right and proper way all the time. The expense of valve renewals is very slight, as the present type of rectifying valve sold for the purpose is made for long and efficient service.

This outfit is intended for use on alternating current supply of 230 volts, 50 cycles, which is the pressure most used in New Zealand. The chief components are a step-down transformer, full wave rectifying valve, and resistance lamp, which regulates the output to the required maximum.

### THE STEP-DOWN TRANSFORMER.

The step-down transformer is the main item, and in its construction the greater part of the total labour is involved. Upon the careful construction of the transformer depends the success of the charger, but if the instructions to be given are conscientiously followed, no trouble will be experienced.

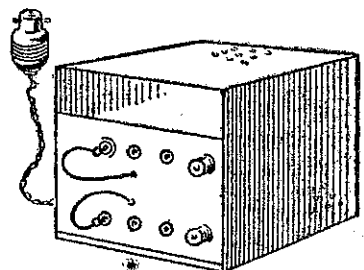
The primary winding consists of 1100 turns of No. 26 s.w.g. enamelled wire, in nine layers. The secondary or low voltage windings consist of two separate windings each of 18's s.w.g. double cotton-covered wire, 126 turns in 3 layers, tapped to give variable voltages of 13½, 17 and 20 volts. Outside these windings is a filament winding of 12 turns, 18's d.c.c., tapped to give approximately 1.75 volts, a filament current of 3.5 amps being required.

The core is built up of 1½ in. stalloy strips, and no attempt must be made to reduce the width of strips used. The core is a very vital part of a transformer, and any alteration of its dimensions has a great effect upon the output and general performance. The larger the amount of iron in a transformer core, the more efficient does the transformer become, the fewer the turns of wire required to produce a given voltage. This transformer is of the "core" type as distinguished from the "shell" type in which the outside iron divides and half comes around each side of the spool. The space acti-

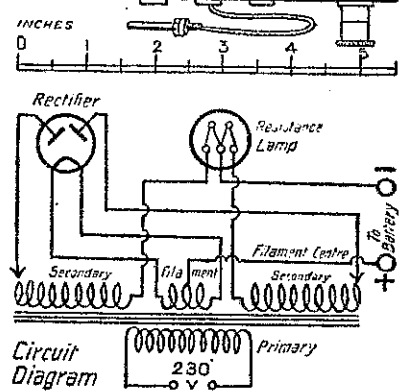
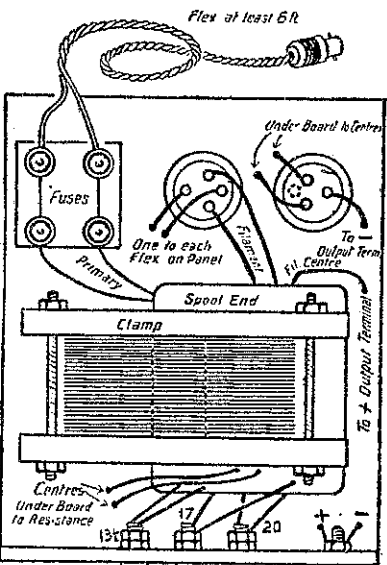
ally occupied by the transformer is 4½ in. by 3 in. and 5½ in. high.

### THE WINDING SPOOL.

The spool ends are 3 in. by 2½ in., cut out of red fibre, presspahn, or other non-inflammable substance not



The Charger Complete



exceeding 1/8-in. in thickness. To make the spool a former of wood is first required, and this must measure a full 1½ in. by 1½ in. by 3 in. long, and is best built up of strips of wood as shown. The 1½ in. dimension must really be a shade over to give an easy fit to the stalloy strips. Two strips of wood from which the former is made should be 3/8-in. thick by just

over 1½ in. wide, separated by two narrow strips to make up to 1½ in. If it is necessary to increase the size, glue on a piece of thin card. The former is put together with brads near the centre, and should be made about 4 in. long, and sawn to length by trimming the necessary amount off each end when made up. For insulation between the primary layers we require a few strips of good but thin paper 2½ in. wide by 13 or 14 inches long. It is a good plan to get these strips cut by a printer from waste that is generally on hand. The strips may be a fraction over the measurement, but must on no account be any less, or the requisite number of turns will not be accommodated in each layer. A couple of dozen strips will suffice. These strips are to be used as a gauge to determine the width apart of the spool ends, so that when used to separate the layers there will be no space at the ends. From the width of these strips plus two thicknesses of spool ends, we get the total outside length of the spool which should not exceed 31-16 in. The wooden former is now cut to the requisite length and covered with one thickness of good quality thin cord or two thicknesses of "folder" manilla, the exact length of the former, glued at the overlapping joint, taking care that no glue is allowed to cause it to adhere to the former. In each spool end is now to be cut a square hole that will fit closely over the end of the spool centre. One of the spool ends is then fastened in place with seccotine or strong glue, a number of the paper strips curled round the square centre, and the other spool end also fixed in place, pressed against the edges of the paper strips. See that all is square, and put away to set under a weight. When set, remove the paper strips and run a fillet of glue or seccotine round the inside of the spool ends to add extra strength, and again leave to set. The spool will now look like No. 2, and should be quite flat and flush outside both ends. The inside must now be shellaced. Now cut two pieces of heavy cardboard or mill-board 2½ in. by 1½ in. In the exact centre of each make a hole to fit the spindle, usually a dowel-stick, to be used on the winding jig. Nail one of these on each end of the spool, putting brads into the former at AA, with the round hole in the centre of the square hole in the former. These will support the ends during winding. A thin nail through a hole drilled in the dowel can be used to prevent the spool working loose on the spindle. There must be no end-play on the spindle, or even winding will be difficult.

### PUTTING ON THE PRIMARY.

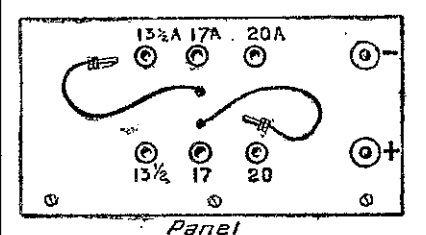
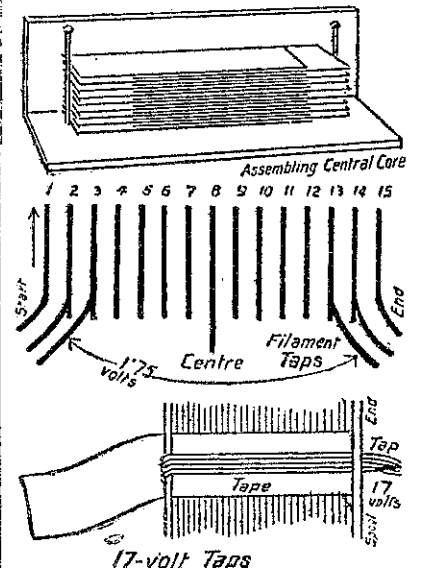
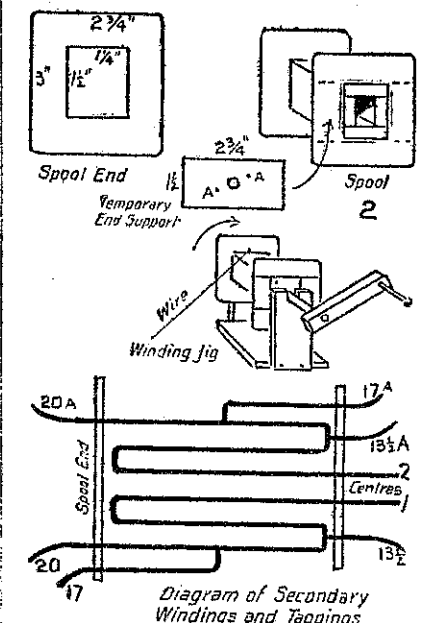
Before commencing winding, put one layer of paper round the spool centre, securing with seccotine. Pass the end of the 26's wire out through the hole in proper position, commencing winding at the left, turning in the direction shown by the arrow. The wire should pass through a small piece of linen held in the hand to keep taut during winding. Each turn must be put on evenly, and close up against the previous turn. The number of turns on every layer should be counted and written down. The number of turns on each layer, leaving at least 1/16 in. blank at each end, will vary slightly, but should never be less than 122, and on some layers, especially the first, there should be 126. At this rate 9 layers will give a few over 1100 turns, 1106 in the writer's case, but if there is room for a few more, put them on to complete the ninth layer, and bring the end out through a hole at the opposite end of the spool to the start. It must be understood that where the extra strips of millboard are nailed over the ends, shows where the laminations come, and no wires may come through the spool ends at those parts.

A layer of paper is put round between every layer of wire, and great care must be taken to prevent a turn slipping down the edge of the paper to the layer below, and for that reason it is wise not to wind close up to the spool end, but leave a space about equal to two turns. Cover the primary with a layer of paper and a layer of empire cloth.

### THE SECONDARY WINDINGS.

This winding is done by hand with end as the finish of the primary, but in the centre of the opposite side as

the spool on the knee, the spindle having been removed. The 18's wire commences on the same spool shown. It is most convenient to wind from left to right, turning the spool in the opposite direction, guiding the wire on with the right hand. There must be carefully done, and the turns



laid absolutely straight and close to must be no hurry about this work, as it is not to be got in each layer. Each few turns must be pressed up to the preceding ones where necessary, as any spaces will prevent the full number going in. Leaving a few inches outside, winding is proceeded with, until 21 turns, or half a layer has been put on. Here a tap is required for the 17 volt point. In order not to be bulky, the tap should consist of three 22's or four 24's enamelled wire soldered side by side and kept in flat formation until through the spool end. A piece of adhesive tape is laid under these to butt against the spool end, passes under the tap join, and over the top of the wires, finishing flush at inside of spool end. Mark this 17 volts. Winding proceeds, until the layer is complete, and here a piece of 18's d.c.c. wire is soldered on as shown and brought out through the end, marking 13½ volts. Then the layer is well shellaced and allowed to dry. When dry, and not before, a covering of empire cloth is put on,

and no more tape are required, the wire end being brought out at the end of the third layer, which is the finish of 126 turns, and marked Centre 1.

Now a quarter of an inch from where the last turn goes through the spool end, another hole is drilled and the wire passed out from the beginning of the next winding (Centre 2), which must proceed in the same direction as if there had been no break, but of course a layer of empire cloth must be put on after the shellac is dry, and the turns of this winding must be prevented from coming into contact with turns of the previous winding. Two layers are put on without taps, until the end of the second layer, where an 18's wire tap is brought out and marked 13½A, then 21 turns of the next, the last layer, bring out a 3-wire tap over the turns already wound (17A), protect as before with adhesive tape, and put on remaining 21 turns, bring out end and mark 20A. All taps must be made on the same surface of the windings, but may come out at the nearest end. Now after shellac and a layer of empire cloth, comes—

### THE FILAMENT WINDING.

This is a short winding of 15 turns placed outside in order to provide a filament supply of 1.75 volts, 3.5 amps. This winding has a centre tap that forms the positive side of the charging output, conveying from the rectifying valve the rectified charging current, which in the valve airways flows from the plates to the filament. Ten turns should give the necessary 1.75 volts as is the case in the original, but it is wise to place a couple of extra tapped turns on each side to provide for any lessened voltage that is possible. Then an extra turn can be included from one or both sides to make up the required voltage. This provision is wise because, owing to slight differences in construction, the "turns per volt" may not work out just as in the original.

When winding is completed, the whole should be covered with bookbinders' cloth or similar material as a protection.

### THE STALLOY STRIPS.

The stalloy should not be cut until the winding is completed, so that there will be no need to cut the strips any longer than necessary. The long pieces should be 4½ in. long and the short pieces 2½ in. long, but if the winding projects outside the spool, this latter will have to be increased. About 185 of each size will be required. The cutting will be done with ordinary snips, failing access to a suitable machine for cutting accurately. Cutting with the snips, a gauge must be cut of the correct length and all others cut by holding this on the strip and cutting as squarely as possible with the snips against the end. The slight curve put in by the cutting must be tapped out by hammering lightly a few taps, on an iron surface. Unless this is done well, there will be too much air space in the core, and it will be inclined to hum. When all the flattening is complete, the strips must all be coated thinly on one side with shellac dissolved in methylated spirits and applied with a brush. There are two good reasons for the shellac, firstly, electrical insulation of each lamination, and secondly, cutting out any tendency to mechanical hum by the deadening effect of the coating. The best side to shellac is the dark or oxidized side.

### ASSEMBLING THE CORE.

Carried out in the wrong way, the assembling of stalloy strips can be quite an irritating process, but if the following procedure is carried out, no trouble whatever need be experienced. A pile of the long

(Continued on Page 11.)

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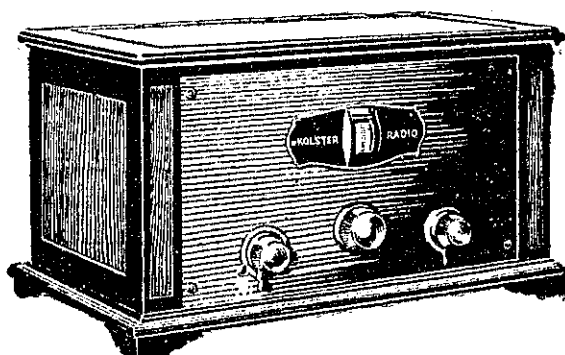
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# An Analysis of Distortion and Fading

## Clear Explanation of the Effects of the Heaviside Layer

By "M.I.R.E"

**I**N last week's issue possible causes of distortion and fading were dealt with, as the problem affected the transmitting station and its internal organisation. It was pointed out that although "fades" due to faulty transmissions were not impossible, the proportion of "fades" due to natural or atmospheric causes were accountable for the vast majority of troubles.

To get at the real causes of fading and distortion as well as the reason that signals on the broadcast band travel much further during the night than the day (all these points of interest having a common basis), it is necessary to consider transmission phenomenon and the existence and effect of what has become known as the "heaviside layer."

In order to understand the reasons which have led to the location of this "layer," it is necessary to make a digression and one of interest in itself.

### INFLUENCE OF A VACUUM.

**I**F a glass vessel has installed in it a pair of metal electrodes having an air gap between them of say an inch and the terminals of an induction coil, transformer, or other source of high electrical potential are joined to the terminals, the voltage will tend to break down the air gap and force current across. Of course a high enough voltage would succeed in doing this, but for the purpose of this description a voltage insufficient is presumed. Now, if a vacuum pump is joined to the glass vessel and air gradually drawn out an interesting cycle of events follows. As the air in the glass vessel becomes reduced in pressure, current commences to pass between the electrodes in the form of deep red streamers, which soon become a brighter red and fill the vessel as the air pressure reduces. The colours now change in step with their order in the spectrum of white light, and change to orange, then to a sort of yellow green, green, finally a blue colour, after which a bright apple-green appears on the glass

rather than in the interior of the vessel. Finally, with sufficient voltage, intense ultra-violet light and X-rays, result, after which the resistance between the electrodes rises to such a value with the rarification of the air that all current ceases.

**T**HE initial point of interest is the particular point at which the vessel glows red all over, as it is at this stage that the resistance between the gaps is at its lowest (about 10 ohms per centimetre for the benefit of technical readers).

### THE HEAVISIDE LAYER.

**N**OW another digression, but also a necessary one.

The globe which we call the earth is floating in space which we say is a vacuum because of the absence of atmosphere or air such as exists on the surface of the earth. The air or gases surrounding the earth are held by gravity close to the earth, and are pressing on every square inch of earth surface at sea level with a pressure of 15lbs. In other words the weight of air pressing downward is that measure. Naturally, the pressure decreases away from the earth until at a distance probably running into hundreds of miles the air absolutely ceases and beyond is a vacuum.

**I**T follows, therefore, that as the pressure decreases gradually from the point of sea level of 15lb per square inch to nothing there must be a certain point where the pressure corresponds to that at which the air inside the glass vessel exhibited such interesting properties of low resistance to electricity. This is found round about 50 to 60 miles above the earth's surface.

So 50 miles up, insulation ceases to exist, and the atmosphere has a resistance of about 10 ohms per centimetre compared with about 60 ohms per centimetre of earth such as would compose good farming land, and compared to infinite resistance of air at 15lb per square inch at the earth's surface.

This belt of electrically conductive atmosphere is what is called the "heaviside layer."

### THE FUNCTION OF SHIELDING.

**I**T is known, of course, that metals will reflect the waves which we call either or wireless waves. Any substance which will conduct electricity, readily will also reflect wireless waves. The metal shielding which is one of the features of modern receivers, is used to shield the tuning coils from harmful effects such as stray and interfering waves. Hence the "heaviside layer" will reflect waves too. The world is, therefore, enveloped by a "ceiling" which is impervious to wireless waves and will reflect them. This explains why waves travel over the curvature of the earth because they travel up and are reflected down again by the layer. Several reflections will take place when waves travel over great distances.

**D**URING the day the sun rains electrons, ultra-violet rays, etc. on to the surface of the layer and breaks it up, thus making it an inefficient reflector, while at night its surface is coherent and a relatively efficient reflector. In fact, all the difference between reflecting light with a bit of rusty tin as compared to using a mirror.

The layer does not present an absolutely even surface at night, although it may reflect fairly efficiently. The consequence of this is that the angular reflections of the wireless waves may be irregular and will arrive at the receiver from several different points of the compass and not at the same instant, owing to some waves having taken a less direct route than others. Directional reception proves this to be correct, as the direction the waves come in from the same transmitter will sometimes vary 40 degrees round about sunset and sunrise, when the layer is going through its transition stage.

### THEORY AND PRACTICAL PROOF.

**I**F the electrical "phase relations" or times and direction of arrivals are such that the impulses imparted to a receiving aerial are additive, then efficient reception takes place, but if

the "phases" of the currents induced by the waves are all out of step, then mushy reception as well as a loss of signal strength will result. The mushiness is easily explained by the acoustic analogy of a speaker in an empty hall being quite indistinguishable, but as soon as the hall becomes full of people and the echoes disappear the speaker's voice becomes clear and distinct. The echoes destroying clarity are waves arriving from different directions.

**T**HIS explanation is borne out in practice by the fact that fading and distortion do not take place in daylight where the waves are dependent on atmospheric refraction to assist them a limited distance over the curvature of the earth or where one reflection at most takes place against the layer, the greater proportion of the energy travelling in a direct line from the transmitter to the receiver.

There is one outstanding practical illustration of this effect to be observed at a certain listener's place in a suburb of Wellington. SVA, Christchurch, has consistently for months past in the afternoons filled a speaker using a 5-valve neutrodyne with the last stage of audio amplification cut out. No distortion and no fading whatever. Just as soon as the sun commences to dip below the horizon the signals get cranky and fade and distort in an extraordinary manner until quite dark, when the same performance continues to a lesser degree, but the full five valves have to be brought into use to get speaker volume.

### ANOTHER THEORY.

**C**ERTAIN theories have been advanced regarding the effect of earth currents from the transmitter interfering with the waves which have travelled by the aether and causing interference effects. It is not impossible that this is so under certain circumstances, but such a consideration is highly improbable for general purposes because swinging of signals at sunset can be observed by a directional

receiver on an aeroplane and measurements have been made giving tolerably similar swinging observations of the same transmitter by an aeroplane with a loop on the ground and a directional receiving system definitely joined to earth, all receiving and recording their results at the same time.

Everything is apparently in favour of the "heaviside layer."

It was explained how much more efficient the layer is in its reflections night than during the day. This obviously is the reason for the longer distances covered by radio signals at night. A signal which has travelled 5000 miles may have been reflected twenty or more times, and the reflections must have been very much more efficient when it is considered that daylight ranges are approximately one-fifth of the night range of the same station on broadcast wavelengths.

**T**HE performance of very long wave stations used for telegraphic purposes across the Atlantic, etc., follow laws which can be fitted into the idea of the "layer." Much has yet to be learned of the freak performances of the ultra-short wave stations, but the more that is learned the more the "layer" comes into prominence.

### SIGNALLING TO MARS?

**I**N conclusion it is of interest to note that before inter-planetary signalling can be carried out, means must be found of piercing the layer. It is being presumed now that wavelengths round about five metres or less are capable of doing this so that when the inhabitants of earth finally ring up Mars it may yet be on a wavelength as short as to be comparable to the wavelengths of heat or light, the shortness of whose wavelengths carry them to the "layer" to bring good cheer from the sun and enable life on the earth to function on the lines peculiar to this planet.

## Construction Continued

pieces must be assembled nearly 1 1/2 inches high when compressed, and so arranged that there is a gap of 1 1/2 inches at alternate ends of each strip. This is best done in the right-angle of two flat boards nailed together, with two 3in. nails about 5/8in. apart. The strips are then fed into this alternately to the right and left. This pile is then gripped and pushed through the centre of the spool, and a few more strips pushed in until all is tight, but do not overdo the tightness. Sharp corners on the last few strips may cut the insulation, so snip the entering corners off and push in carefully. Now take short strips and put one in every space at each end of the core, pressing them against the ends of the spool. Now further short strips are put in the spaces between those already in at both ends. Next a set of long strips is put at one end of the side and finally the last set of long strips is dropped in one by one at the other end. A few odd ones have to be added at the outsides to level all up, and the clamps should be ready to put on at this stage.

The wooden clamps are four in number, 1in. wide, 3/8 thick and 4 1/2in. long. Holes, centres 3 1/2 apart, are provided at each end to take the threaded brass rod, which should be cut a bare three inches in length, which will allow ample room for the nuts. The outside lamination on each side between the clamps will be loose at one end, and will vibrate, so must have some seccotine pushed under and the two be clamped down for a day until set.

The threaded brass rod used to tighten the clamps may be 3/16 diameter, one foot being sufficient when cut into four pieces. Eight nuts will be required, and 8 washers if considered necessary.

### PANEL AND BASEBOARD.

The baseboard is 5 1/2 inches wide, 3/4 inches deep, 3/8in. wood, preferably battened underneath to prevent warping. Holes are drilled through which the transformer may be held in place by screws put in from under the board, into the lower edge of the clamps. The front clamp should be 1 1/2in. from back of panel. A piece of ebonite 5 1/2ins. by 4ins. will be ample to accommodate the output terminals, and six sockets, arranged somewhat as shown. A tin case should be arranged to cover the back and sides to keep out dust and prevent magnetic interference. If it is desired to put a tin screen behind the panel this should be 1/2in. behind, then all wires from the panel and transformer can run down through holes in the baseboard and be connected by soldering underneath.

Black cycle enamel makes a good finish for the tin case.

### THE LAYOUT PLAN.

The plan shows the position of the various parts. At the back left-hand corner there is a small ebonite panel 1 1/2ins. square upon which are mounted the two fuses on the alternating supply leads. These fuses, of either 40's wire or fine tinfoil strips, the latter the best, are held under washers secured by 1/8in. brass bolts and nuts through the ebonite, centres 1in. apart. An extra washer clamps the flex on each side of the a.c. input.

Behind the transformer also are the two British valve holders to accommodate the rectifier and resistance lamp. The resistance lamp does not make use of the grid connection. If desired, these two holders could be made on one slip of ebonite by inserting sockets in the correct positions, and the fuses placed across the end.

### THE RECTIFYING VALVE.

The most useful rectifying valve to use is the Philips No. 328, a full-wave rectifier taking 3.5 amps at 1.75 volts on the filament, and delivering 1.3 amps at 12 to 14 volts rectified. If a battery requiring a somewhat higher voltage is connected up to charge, such voltage will be put out subject to the limitations of the transformer and the voltage drop in the rectifying valve, which latter is about 5 volts. This outfit is suitable for charging the 112-volt B battery as described in the "Radio Record," but the charging has to be done with the rows of cells connected "in parallel" as described on September 30 and October 7, 1927, a small attachment to the battery being constructed for the purpose. By this method the charging is rapid and reliable. A well-known firm of battery manufacturers in England has just put on the market an accumulator B battery embodying the elements of the above principle, which they have patented. As carried out by this firm, a number of short plates have to be unbolted and removed and two long parallel connectors bolted in their place. Speedy charging is the advantage claimed.

To work in conjunction with the rectifying valve its accompanying resistance lamp should be included in the circuit. This lamp acts as an automatic regulator. In the case of reversing a B battery to form lead plates, the battery should first be discharged, or the resistance lamp may burn out. Lamp No. 329.

The writer has been using a 328 valve for two years on very constant work, and it is still working

well, which is a good testimonial to its lasting qualities.

The filament connections to the valve are the two usual ones, and the plate and grid connections represent the two-plate electrodes.

### WIRING-UP.

The two ends of the primary winding of the transformer connect direct to the two fuses connected with the alternating supply of 230 volts, 50 cycles. Centre 1 and centre 2 taps connect one to each side of the resistance lamp (filament in ordinary valve) and the remaining (plate) pin is the negative output and goes to the top terminal on panel. The plates of the rectifier each connect to one of the flexes with pins on front panel, and the taps on transformer secondaries are connected to their respective sockets on panel.

Now for the filament supply. The filament is a heavy one, and although carrying 3.5 amps must only glow a dull red. Nine or ten turns should accomplish this, and these turns must be taken as equally as possible from each side of the centre tap. Try 9 turns first, increasing by one and testing until the proper output is obtained, but do not overload the filament. A voltmeter should be used and results carefully checked. Having adjusted filament voltage the rest is simple. All extra filament taps must be coiled up out of the way, care being taken that one end does not touch another and cause a "short."

Spaghetti tubing could well be used on the wiring, especially the primary leads from fuses to the transformer. Use not less than 18's d.c.c. for all connections.

The two flexibles with pins to fit sockets on panel may be ordinary lighting flex, heavy if possible. For 6-volt charging these are plugged into either respective 17 or 20-volt sockets. To charge two 6-volt batteries in series the 20-volt sockets must be plugged in. Up to 12 or 14 volts the charging current is 1.3 amps. As the required voltage increases above 14, the amperage available decreases. The resistance lamp regulates, all changes, and it should be noted that this only glows a dull red in use.

The transformer keeps very cool on long runs.

Those who have not been used to connecting up accumulators for charging should note that the positive of charger connects to positive of A battery, and negative to negative. The output terminals should be clearly marked.

Should any reader have difficulty in procuring the valve and lamp, communicate with "Megohm."

### MATERIALS REQUIRED

Stalloy strips, 1 1/2in. wide (108 ft. run) 3 doz. 3-ft. or 4 1/2 doz., 2ft. ....	12 0
2 lbs. 18's s.w.g., d.c.c. wire	7 6
1 lb. 26's s.w.g. enamelled ....	2 9
6 Flush sockets, 2 pins. ....	1 4
2 terminals ....	8
Philips Rectifying Valve, 328	15 0
Philips Resistance Lamp 329	5 0

2 British Valve holders. ....	4 0
Ebonite Panel .....	4 0
Tin for case .....	1 0
Adhesive tape, empire cloth, threaded rod, nuts, etc. ....	5 0
	58 3

### WIRELESS!

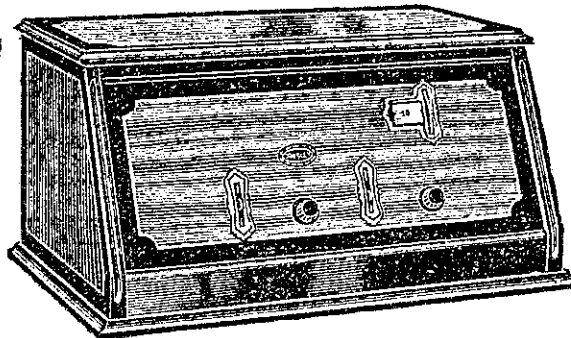
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## AUSTRALIAN PROGRAMMES

2BL SYDNEY

The following are the programmes for 2BL, Sydney (353 metres) for February 29 to March 4, inclusive:—

**WEDNESDAY, FEBRUARY 29.**  
8 p.m.: G.P.O. clock and chimes. 8.1: First Act of "The Film Girl" broadcast from the Empire Theatre, Quay Street, Sydney. 9.0: G.P.O. clock and chimes; the Canterbury District Band (bandmaster, Mr. Stan Nicholls) broadcast from Baker's Hall, Campsie. 9.10: Win and Windle (entertainers). 9.30: The Canterbury District Band. 9.40: Win and Windle. 10.0: Broadcaster's all sports expert will talk on general sporting. 10.15: Resume of following day's programme; weather report and forecast, by courtesy of Mr. C. J. Mares, Government Meteorologist. 10.20: Romano's Restaurant Dance Orchestra, under the direction of Mr. Merv Lyons. During intervals between dances Sun news will be broadcast. 11.30: G.P.O. clock and chimes. National Anthem.

**THURSDAY, MARCH 1.**  
8 p.m.: G.P.O. clock and chimes; Broadcaster's Topical Chorus. 8.3: Broadcaster's Light Orchestra (under the direction of Mr. J. Knight Bennett). 8.10: Mr. Herbert Hinchcliffe (baritone). 8.17: Mr. Lloyd Davies (violin solos). 8.24: Miss Helena Stewart (soprano). 8.31: Miss Mary Charlton (pianist). 8.38: Mr. Norman Wright (tenor). 8.45: Mr. Harry Thomas (elocutionist). 8.52: Miss Malsie Barnett (contralto). 8.59: Weather report and forecast, by courtesy of Mr. C. J. Mares, Government Meteorologist. Resume of following day's programme. 9.4: Broadcaster's Light Orchestra. 9.11: Mr. Herbert Hinchcliffe. 9.18: Mr. Lloyd Davies. 9.25: Miss Helena Stewart. 9.32: Broadcaster's Light Orchestra. 9.39: Mr. Norman Wright. 9.46: Miss Mary Charlton. 9.53: Miss Malsie Barnett. 10.0: G.P.O. clock and chimes. Mr. Harry Thomas. 10.7: Broadcaster's Light Orchestra. 10.17: The Wentworth Cafe Orchestra, broadcast from the ballroom of the Wentworth. During intervals between dances Sun news will be broadcast. 11.30: G.P.O. clock and chimes. National Anthem.

**FRIDAY, MARCH 2.**  
8 p.m.: G.P.O. clock and chimes. 2BL Dance Orchestra. 9.0: G.P.O. clock and chimes. Romano's Restaurant Dance Orchestra, under the direction of Mr. Merv Lyons. 9.10: Miss Ruby Dent (songs at the piano). 9.15: Romano's Restaurant Dance Orchestra. 9.25: Mr. Phil Mountain (comedian). 9.30: Romano's Dance Orchestra. 9.40: Miss Ruby Dent. 9.45: Romano's Dance Orchestra. 9.55: Mr. Phil Mountain. 10.0: Sporting Editor of the Sun will talk on the prospects of Saturday's racing. 10.13: Resume of following day's programme. Weather report and forecast, by courtesy of Mr. C. J. Mares, Government Meteorologist. 10.20: Romano's Dance Orchestra. During intervals between dances Sun news will be broadcast. 11.30: G.P.O. clock and chimes. National Anthem.

**SATURDAY, MARCH 3.**  
8 p.m.: G.P.O. clock and chimes. 2BL Broadcaster's Instrumental Trio, under the direction of Mr. J. Knight Bennett. 8.8: Miss Anne Pyrie (contralto). 8.15: Mr. George Hanton (novelty pianist). 8.22: Mr. L. Dart (baritone). 8.29: Mr. Bill Price. 8.36: Broadcaster's Trio. 8.43: Mr. Jack Win (entertainer). 8.50: A description of the boxing contest broadcast from the Sydney Stadium, Rushcutters Bay. 9.30: Broadcaster's Trio. 9.37: Miss Anne Pyrie. 9.44: Mr. George Hanton. 9.51: Mr. L. Dart. 9.58: Mr. Bill Price. 10.5: Broadcaster's Trio. 10.12: Mr. Jack Win. 10.19: Resume of following day's programme. Weather report and forecast, by courtesy of Mr. C. J. Mares, Government Meteorologist. 10.24: The Wentworth Cafe Dance Orchestra, under the direction of Mr. Cyril Kaye, broadcast from the ballroom of the Wentworth. During intervals between dances Sun news will be broadcast. 11.30: G.P.O. clock and chimes. National Anthem.

**SUNDAY, MARCH 4.**  
7.0: Service broadcast from Baptist Church, Petersham. 8.30: The North Sydney Tramway Band, broadcast from Manresa Hall, North Sydney. 9.15: Broadcaster's Instrumental Trio, under the direction of Mr. J. Knight Bennett. 9.22: Mr. Peter Sutherland (bass), and Amy Ostinga (contralto), in duets. 9.29: Broadcaster's Trio. 9.36: Song cycle, "A Pagoda of Flowers," composed by Amy Woodford-Finden; soloists, Miss Helena Stewart (soprano), Miss Amy Ostinga (contralto), Mr. Lance Jeffree (tenor), Mr. Peter Sutherland (bass). 10.0: Resume of following day's programme. Weather report and forecast, by courtesy of Mr. C. J. Mares, Government Meteorologist. 10.10: National Anthem.

## W.E.A. AND RADIO

At the Dominion Conference of W.E.A. lecturers held in Christchurch, it was decided to make use of radio whenever possible.

Speaking on the question of the duration of lectures, Professor Shelley said the average person could not listen to a lecture over the wireless for more than a quarter of an hour and take it in. The psychological effect of such a lecture was something like that of a talk in a dark room, and there was nothing to take the place of personal contact. He thought that wireless might be used with advantage for short talks on the nature and work of the W.E.A. rather than for the lectures themselves.

## THE CRICKET TOUR

### WHAT OF THE AUSTRALIANS?

#### MATCHES YET TO COME.

The progress of the Australian tour throughout New Zealand has been kept before the minds of listeners through the activities of the Broadcasting Company in describing the progress of play wherever this has been possible, and in making arrangements to have the latest news forwarded by telegram when the play has been in one of the smaller centres.

The visitors have now played three matches, and as this is being written are in the middle of the fourth match of the tour. Their performances on tour so far have been up to the standard usually associated with players from the other side, and they have won or had the advantage in all the games so far played. However, that New Zealand cricket must have improved, and that we have certain individuals who—when not overawed by the occasion—can perform meritoriously is

many wickets Australia would win by, but so well did Badcock bowl that at one time six wickets were down for 50 runs. Woodfull and Richardson then knocked off the runs required. Badcock finished with the fine average of four wickets for 23 runs, and Wellington retrieved their cricketing reputation which had been sullied on Saturday.

The next performance of merit against the visitors was a fine 117 by Zimmerman for North Otago, this score being comprised of 16 fours and five sixers, batting that would delight the hearts of all, even those who claim cricket to be too slow. Then on top of these performances comes the effort of Dickinson, the Otago fast bowler, who bowled so wonderfully that he captured the seven Australian wickets that fell on the first day at a cost of 78 runs, and this in the large total of 393 for seven wickets. At one stage this bowler took six good Australian wickets for three runs, the players dismissed being Ponsford, Kippax, Richardson, Schneider, Oxenham, and Oldfield, truly one of the most remarkable bowling performances ever credited to a New Zealander against a visiting side. Such performances by our players and the knowledge of the calibre of our visitors must infuse a lot of interest in their future matches, and while onlookers are certain to see some

## APPRECIATION OF COMPANY'S EFFORTS.

A number of complimentary references to the service now rendered by the Radio Broadcasting Company were made at a joint meeting of members of the radio trade and the Wellington Radio Society last week.

Mr. Morgan said that the Broadcasting Company was now giving good service. It was anxious that the Radio Society should increase its membership so that it could be held to fully express the views of listeners-in regarding the programmes. The company would then be in a position to provide the programmes required by the majority, whereas, at present, it had to listen to disjointed criticism.

Mr. R. Leslie Jones said that he had been one who had said strong things about the Broadcasting Co., and the service it was rendering, but he had altered his views. It was all very well to growl about programmes and about the management, but they were doing their best with the finance and talent available and critics had to bring forward something constructive. He believed that the Broadcasting Co. sincerely did the best they could, and there was no doubt the programmes had wonderfully improved since 2YA opened last July.

amply proved in the first few games of the tour.

To speak of the visitors first, Ponsford's performances have proved that he is a great player in good form, as he has already been responsible for a large number of runs. Woodfull shows that he is still a prolific run-getter, and that he is a very hard man to dismiss. Schneider, one of the colts, proved by a fine innings in Wellington that he has not been over-rated. Kippax, Oxenham, and others have batted in top-top form.

On top of this we have some remarkable performances to the credit of New Zealand players against the visitors. That the Australians were not absolutely on top was amply proved at the Basin Reserve last Monday, when Australia required the paltry score of sixty-two to win the game. The Wellington players came right out of their shells and gave the spectators plenty of thrills for their money—by the way, there was no money, the officials, thinking that the game was as good as over when it commenced in the morning, made no charge. Those who took advantage of this opportunity certainly had the best free cricket show of their lives, and play lasted nearly all day. Wellington had dismissed Australia for 375 in the first innings, and had replied with the comparatively small score of 206. Australia exercised their right and compelled Wellington to follow on, and at the call of time the local side had lost six wickets for 92, and the game looked as good as over. It is now history that the Australians were looking forward to a pleasant afternoon for themselves and a nice win of an innings to their credit; but they had overlooked the fact that James and Massey had other ideas, which they put into execution to such effect that they added 104 runs for the last wicket, raised the total to 230 runs, and left the visitors 62 to get to win. This appeared so easy a task that most spectators were only concerned with how

of the world's best in action, there is always the promise of a thrill in some good performance of our own players. There is still the opportunity for the majority of New Zealanders to see something of these games, as the tour has only commenced, and there are still the following games to play:—

March 2, 3, 5—Canterbury.  
March 7, 8—Waikato.  
March 9, 10, 12—Auckland.  
March 14, 15—Taranaki.  
March 16, 17—Wanganui.  
March 20, 21—Poverty Bay.  
March 24, 26, 27—New Zealand First Test Match at Auckland.  
March 31, April 2, 3—v. New Zealand. Second Test Match at Dunedin.

## Our Mail Bag

### Dinner Music Wanted.

R. Priest (Wellington): I would like to make a suggestion. Is it not possible to fill in the hour between afternoon sessions and children's sessions? This is how I find it, that when I come home from work at five, my dinner is usually ready, but alas! there is no radio. I think if this hour could be filled in with gramophone items of a cheery nature, it would be worth the trouble. It is said by some medical authorities that music aids the digestion; what a boon it would be to the dyspeptics! I do hope something can be done. I don't know what we would do without friend Radio. While I am writing this treatise, I would like to say a little about 2YA's programmes. All the stations, generally speaking, are excellent; but individually 2YA is just a little overdone with "high class" stuff. I prefer the old melodies of my dad's days, or the snappy, catchy songs of to-day. Of course, I don't forget that different people have different tastes. Yet, I think Monday and Tuesday evening programmes could certainly be improved to suit a great majority. I guess you will think I am a fault-finder; well, I may be, but I am amongst those who take off their hats to the enterprise and good service of the New Zealand Broadcasting Company. As to the "great little" "Radio Record," it abounds with interest and information. It is the ideal paper for any radio amateur. So onward! "Radio Record."

## Wireless Results, 1927.

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## CHEAP CRITICS

### VENOM FROM AUCKLAND

#### SOME CARPING SUGGESTIONS.

Auckland is earning the distinction of containing an irreconcilable and disgruntled set of newspaper radio critics. Alone of the press of the Dominion did they find serious fault with the Maori Pageant to the extent of harping upon an alleged mispronunciation—which is, in fact, merely a matter of dialect and custom—to the exclusion of the real beauty of what was a memorable event. Now it is the Edison evening which falls under the displeasure of these wise ones to the extent of its being described as a "sly advertising stunt."

To our mind this is one of the most contemptible suggestions that has ever emanated even from these critics. Edison is unquestionably the outstanding inventive genius of the age—indeed of all time—and New Zealand was honoured to a very high degree by his consenting, through his friendship with Mr. Harris, to speak a special message on to a gramophone record and send it to New Zealand for re-transmission "over the air." This in itself was a unique honour and tribute to New Zealand which stands to benefit—and undoubtedly will benefit considerably—through the attention thus concentrated on the Dominion by Edison taking notice of us to the extent he did. Mr. Harris spent some years of his life in close association with Mr. Edison, and those not blinded with bigotry and prejudice will agree that it was a fine fine thought to desire to pay tribute thought to desire to pay tribute to such a man as Edison on the occasion of his 81st birthday. The uniqueness of the event and the honour done the Dominion in securing so remarkable and effective a tribute from Edison as was broadcast, was recognised by the Dominion Press other than that of Auckland to the extent of generally republishing his message with, in some cases, his photograph. Mr. Harris in no way stood to benefit by the event, and the suggestion is utterly mean.

The petty-mindedness of Auckland writers on radio is indeed becoming proverbial. For instance, this same "critic" objects first to re-broadcasts such as the Maori pageant and Edison

evening, because "that is equivalent to cutting out a station." Next, if broadcasts are to be given, they should be by land-line, not by aerial reception and rebroadcast. Imagine a landline from Wellington to Auckland under present conditions! The suggestion brands the man at once as writing merely to find fault. This is intensified by his final suggestion that listeners "if programmes are getting short," would prefer gramophones from the local station in preference to the re-broadcasts of such outstanding events as they have been given!

It has been apparent for long enough that the Auckland Press critics concerned can find no good in anything that comes from Wellington. Jealousy that 2YA is the "biggest and best" and that Auckland has been deposed from numerical leadership is perhaps the kindest explanation to offer. If these quidnuncs were open to facts and appreciation of service they would recognise that in the short space of two and a half years New Zealand has built up a radio service of a general standard and efficiency that is the envy of certain other lands. Our population is small; our range of talent small; our public events and functions limited; nevertheless a comprehensive and effective service is being provided which meets with general appreciation and which will be steadily improved as time goes on. Criticism, to be effective, must be reasonable. The Auckland writers discount themselves by their own venom.

"Concrete" (Patea) writes:—"I am thinking of building a loop aerial. I have all the constructional 'dope,' but am not sure whether my room, being small, will affect the efficiency of the loop. If it is close to the wall will there be any loss in signal strength?" Using a loop aerial indoors, in proximity to a wall or ceiling has the effect of raising the effective resistance. The difference in resistance (which spoils reception) when the loop is five feet away from the wall or ceiling, is about 20 or 25 per cent., as compared with that when it is near.

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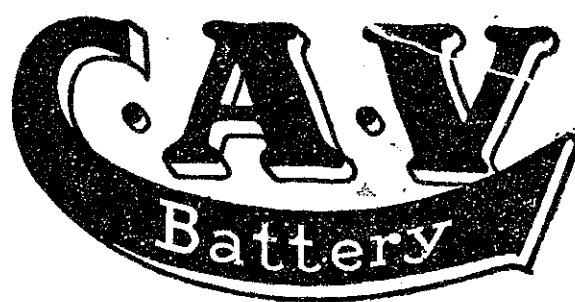
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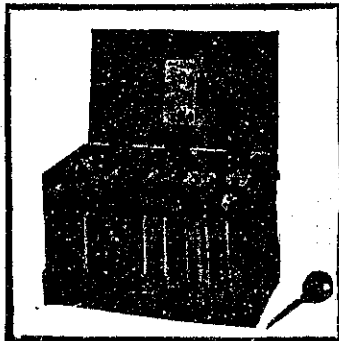
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