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Radio Spreads the Love of Good Music

Striking Growth of "High-Brow" Appreciation

"Rich man, poor man, beggar man, thief"—and all other classes of men and women have been brought by radio to a realisation of the beauties of classical music," says Mary Jordan in the February issue of "Radio News."

As this question of "high-brow" has been fairly prominent in New Zealand, reproduction of this article will be of value as recording the experience of the United States, the world's greatest radio audience, to the lure of the best in music.

RADIO, more than any other instrument of civilisation, has made art popular. It has taken it out of the caviare class and put it where everyone can have it for the taking.

As one of the highest forms of art, music has been carried out of stuffy concert halls where one in a million might hear; it has been picked up from the exclusive circles of the intelligentsia, where familiarity with Wagner and Brahms and Beethoven was a sign of an alleged culture; and it has been taken in its best and most nearly perfect expression to the most remote quarters of the world.

Much as Europe and its centres of artistic learning have done to aid musical education and to develop artists, to advance the work of the student and to smooth the technique of the genius,

the broadcast stations of America have done more to further musical appreciation among masses that number millions, than any other agency which has undertaken to spread art in any form over the universe.

AND while the big stations of the country may have had some idea of enlisting new interest in music, that was a secondary motive; for the purpose of the ambitious programmes which have gone out on the air for the past three or four years was not quite so altruistic. It has to hold attention which had already been gained, and to create new interest among the unconverted hordes who, it was hoped, would become radio devotees.

Whatever the purpose, the result has been an amazing spread of musical knowledge among all types. The labourer in the street, shop or field now takes his evening recreation listening to an aria from "Il Trovatore" and, what's more, when the number is finished he knows just how to pronounce the foreign words.

Every set owner in America is a potential music-lover,

for the fact is certain that a steady diet of jazz in any household will become monotonous as will any one type of entertainment which the ether carries.

And, because the American is innately a curious being, he may not know whether he would like to hear Gigli's voice or not; but, when he hears the magic of a great name, he will tune-in on the station which offers it and he will, with the general run, remain tuned in while the artist broadcasts. Even if his is only the germ of an appreciation, he will turn his dial again when an equally-famous name is announced and, after a few such concerts, he has gained some sense of the beauty of what is offered him.

OPERA FOR THE MILLIONS.

TEN years ago, how many people in America had ever attended a concert where the talent was of the first rank? How many people in the whole nation had ever sat through an opera sung by the Metropolitan or the Chicago companies? Such a small minority as to make the statistics almost negligible. Even if music such as the Metropolitan offers were to be had in every big population centre in the country, what percentage of the inhabitants would make an effort to attend, and how many could conveniently do so?

When the great Caruso drew 3,000 people to one of his concerts, that attendance was hailed as an indication of the tremendous popularity of the singer. If Geraldine Farrar in her best days was acclaimed in a music hall by a few thousand men and women, the event was pointed to as a display of the existence of the great "Farrar public." Famous artists of the past generation, who are now gone, live only by the reputation which the envied few created for them from the experience of listening. The overwhelming majority of the public had to take this talent for granted, to accept the decisions of critics and the approbation or condemnation of the choice ones who knew. And then came radio!

NOW when a million people say that Rosa Ponselle has a beautiful voice, they may not be expressing expert opinions, but they know they are expressing their own emotional reactions. They have felt the magic of her rich tones. How long would it take John McCormack in a concert season to reach a million of his admirers, directly, with his voice? A sufficient number of times to make a rest cure necessary from overwork at the end of a tour. A few years ago, on New Year's night, he stood before WEAF's microphone and the greatest audience of his whole career, the greatest audience which had ever listened to any one artist, heard every note of his concert. And that was the beginning of a popular and widespread musical appreciation in America.

Remember the furore which was made over the first efforts of broadcasters to put high-class music on the air? And the enthusiastic reception it received, beyond all expectations and emphasised by the ton of mail that flooded station WEAF and the company which sponsored the programmes.

EDUCATION FOR THE MASSES.

HOW can any human being ever be blasé about the wonders of broadcasting when he realises that the isolated lumberjack, sitting down to his crude meal of canned billy and hard bread, may mellow his supper with the greatest music the world has ever offered? How can any one accept as a matter-of-fact the radio programmes sent out to-day, when he knows that men, women and children to whom finer music was an unknown thing now have the best of it in their daily lives?

And does the vast public really want the best in music, or is it satisfied with any second-rate entertainment which may be presented? The answer is plain. The response to the high type of musical programme is not limited to those who have always had good music. They are the sort who, while they appreciate it and are sympathetic listeners,

take the programmes somewhat for granted. The great majority of writers who pen their thanks to the broadcasters after an important musical event on the air are the industrial workers in big cities, the farmers in the rural regions.

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.

All the loudly-spouted and vehement denunciations, of the commercially-obsessed nation that we are supposed to be, have been a boomerang to the denouncers. What the small cultured groups never could do, American commerce and industry have accomplished. A new coffee, a paint, a battery or a baking powder rides into a million American homes on ether-carried slogans and remain a household word. But how does it get there? On the wings of art! It is the programme, commercially sponsored by the manufacturers, producers and distributors of utilities who have used music as a bait for attention and who have indirectly furthered their own interests while they have done more for the general advance of music than any of those who have sneered at them.

THE CONQUESTS OF RADIO.

THE artists of international reputation who have not appeared on broadcast programmes are in a small minority. Four years ago, the Metropolitan Opera officials frowned on radio. The artists under their management were prohibited from broadcasting and, even though some of the more progressive ones were anxious to test their voices on the air, they were restrained from so doing. Then all restrictions were swept aside. Not only did the business management of musical art endorse the idea of radio concerts, but it went to great lengths to have some part in the lucrative field which suddenly opened to them.

Nowadays the listening public doesn't even get excited when a great symphony orchestra is announced for a two-hour broadcast. It merely accepts another feature as part of its radio entertainment. Mary Garden steps before the microphone and sings to forty-eight states at one time—and nothing unusual happens. Because, by this time, set-owners have become used to the superlative and they expect it. Mengelberg, Damrosch, Ponselle, Schumann-Heink, Hackett—they're all more than mere names now to many who had never known them before.

BROADCASTING HAS MADE THEM VIVID PERSONALITIES TO THE WHOLE COUNTRY AND, WITH THIS FAMILIARITY, HAS COME A STRONG APPRECIATION OF THE KIND OF MUSIC THEY STAND FOR. WHO WOULD EVER HAVE PREDICTED IT?

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

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

THE SYDNEY Wireless Weekly has issued a warning to the radio public that good tone cannot be expected from "cheap" receiving equipment, and urges that all obsolete gear should be scrapped. Broadcast stations and vocalists are blamed by some listeners for faulty performances while the true cause lies in the antiquated or trashy equipment some listeners possess. "World-famous singers do not sound much better than the street variety on cheap receiving sets, and it takes the finest instrument to faithfully record the trills of a good soprano. This also holds true in the reproduction of leading orchestras, now playing nightly for the invisible millions (says the "Wireless Weekly").

"Obsolete sets, make-shift contraptions, or bargains from the auction sales...all too common in the cities, are inadequate to meet present broadcasting conditions. Their presence warrants a strike by the foremost talent."

"Certainly, it is not fair to judge the artistic merit of a programme when received in so unfaithful and faulty a style, as the primary contradiction; but even much more important, from the standpoint of the listener, is the constant tinny and blurring effects trying both ears and patience—that follows the installation of cheap receiving apparatus."

"Modern receivers, with their perfected amplification, bring in the De Luxe entertainments with fidelity, making radio a source of keenest enjoyment—as it is meant to be—should be—and is—among the discerning."

"There has been a great amount of criticism, openly expressed, and presumably much more privately circulated, regarding the merits of some of the Australian artists who have appeared on our programmes. In the cases which have come under special notice, investigation reveals that ancient equipment, with rattling speakers ("squeakers") would be more like it, giving a blaring and distorted effect, was being relied upon, constituting an insult, virtually, to the performers. "Because reproduction of song and music was not all that it ought to be in the experimental days, many brilliant artists refused to appear before a microphone. This is no longer the case. They are aware of the vastly improved methods of transmission; they realise that there are receivers which bring them to the family fireside in a manner adding to their fame, and glorifying their art."

"Yet a survey reveals that replacement of unsatisfactory receivers has not been as speedy as most artists imagined. That is why they have

reasonable cause for complaint over ensuing damage to their reputations.

"It is true that many thousands tune in to the important Opera presentations, for example, on receivers that are unable to meet the proper standards. Faulty amplification is the worst evil. Overloading the last stage is ruinous, but that has been obviated by the new receivers—with their finer transformers and utilisation of power valves."

"Modern receivers are essential for fullest enjoyment. Their superiority over the old type of set is more remarkable than has generally been emphasised. Advance in radio design has been noteworthy, and the same holds true of loudspeakers."

"There is another consideration. Oldtime sets did not possess the selectivity required by present conditions, with so many stations clamouring for recognition, in most cases on higher power than in the past. Unless tuning is sharp, chaotic conditions arise. Those who believe that broad tuning sets are sufficient for local reception with which they profess to be satisfied, find themselves hopelessly coping with the heterodyning, cross talk, and whistles—all nerve shattering, due to the many listeners tuning in, and to close proximity of wavelengths."

"That there should be necessity for calling attention to these aspects of broadcast reception seems rather strange, in view of the knowledge acquired by hundreds of thousands of people to whom radio was only a dream a decade ago; but from information gleaned from various centres, appears to be considerable ground for justifying conclusions of this character."

"Feature events from interstate and even foreign stations are becoming popular with listeners who are enabled to hear them through the local station. This has brought about a feeling that the 'old sets' will do just as well."

"Were the persons who hold this theory able to hear these programmes on 1928 sets and loud speakers, they would feel as if they were leaving barnyard noises to hear echoes from a cathedral."

"While at times high-class equipment is sold at special low prices to clear stock there is 'cheap' and inferior stuff often sold which is quite undesirable for those who seek efficiency."

REMARKABLE MULTI-VALVE SETS

MANY people have an aversion to going to the expense and bother of erecting an outdoor aerial, and some city residents have not got the space in their own sections to give a sufficient length of aerial for good results. The most efficient method of overcoming this disability is to purchase a receiving set which by the addition of valves renders it possible to receive

with as great a volume and from as great a distance on a small indoor loop aerial as is obtained with an ordinary set attached to an outdoor aerial. At Waterworths, I saw two fine Preiss 8 and 9 valve receiving sets which render both an outdoor aerial and earth connection quite unnecessary. The Preiss "Straight Nine" has three stages of tuned radio-frequency, three neutralised stages of radio-frequency, a detector and two stages of audio frequency. The Preiss "Straight Eight" differs from its comrade inasmuch as it has two stages of tuned radio frequency instead of three stages. Both models have one-dial tuning control, are completely shielded, and have handsomely finished cabinets. Together with the necessary loop aerial and full complement of 201A valves these sets are selling at the surprisingly low figure of £23 for the "Straight Eight" and £23 10s. for the "Straight Nine."

A.C. VALVES.

THE new wonder of radio, the broadcast receiving set which operates without any batteries at all, but is connected only to the house-lighting electric circuit, has "arrived," and will shortly be found in many New Zealand homes. Mr. P. Billing the other day showed me the Sonatron A.C. valves for these all-electric receiving sets. The Sonatron A.C. valve requires no batteries, but is operated by the household lighting circuit. It is of the separate heater type, with a five-prong base, the cathode connection being right in the base for the heater element. The Y-227 A.C. valve is designed for both detector and amplifier purposes. The Sonatron is a high-class valve, finished in good workmanlike style, and it is credited with excellent in great sensitivity, volume, and tone. The Sonatron 225A is designed similarly for A.C. operation as a radio frequency amplifier, detector, audio-frequency amplifier and oscillator. The characteristics of these A.C. valves are as follows:—Y-227, heater voltage, 2.5; heater amperage, 1.75; plate voltage (max.), 180 D.C.; 225A, heater voltage, 3; heater amperage, 1.05; plate voltage, 12 to 135; C battery voltage, 3 to 9.

DEVELOPMENT OF THE LOUD-SPEAKER.

THE original phonographs were equipped with "tin" horns, which in some cases were belled at their outer ends with handsomely grained wooden pieces, which (says an American authority) were supposed to partially cut down the sympathetic vibrations and improve the quality. Then came the wooden horn, and with it a further improvement. With the advent of radio, the race started all over again, and the early radio horns were almost universally made of metal.

Fibre and even Bakelite horns came into some vogue, but horn manufacturers, believing that they had the entire radio industry just where it should be, were slow to make improvements. Furthermore, radio broadcasters and amplifiers used in the audio circuits, were far from perfect, and the sum total could hardly be called music.

Then came the cone speaker, and with it a vast improvement all down the line. The broadcast stations found it necessary to check up on their modulation, and the amplifying circuit was improved in every way possible. For a year or so, the humble horn was almost completely extinct.

However, though many of the horn manufacturers of old have given up, there remain a few who have continued to cut and try and experiment, until at the present time we have come to the stage where a good horn of proper size, and actuated with a good electromagnetic unit, will put the average priced cone completely in the shade, and in many cases, when connected to a good amplifier, and a set which is tuned to a broadcast station of correct modulation, the horn will bring in music and human voice in a way which was considered absolutely impossible a year or so ago.

However, the horn is not what it used to be. It is quite as different in outward appearance as it is in performance, and it has the very distinct advantage that it is capable of being placed inside the average console without detracting a single particle of this quality. In regard to actual work in design it seems appropriate to let G. S. Holly, chief engineer of Newcombe-Hawley, St. Charles, Illinois, tell the tale in his own words.

"We have been manufacturing the air-column type of horn for several years, and we have maintained a sound measurement and experimental laboratory during this time where we have conducted numerous experiments for the improvement of these horns and reproducers."

"Investigations and experiments on horn wall material have been particularly interesting, and our findings have led us to the following methods of construction; the inner surface of the horn wall is made of just sufficient hardness and smoothness to allow the sound waves from the reproducer diaphragm to pass through the horn uninterrupted. The outer wall is also made hard, but the intermediate or centre section of the horn is made semi-porous and acts as a sort of acoustical sponge in absorbing the vibrations set up in the inner wall. The horn, as a whole, cannot sustain any vibrations and cause its own resonance to combine with the sound wave passing through the neck and bell of the horn without resulting distortion."

AIM FOR HIGHEST STANDARD.

THE dealer who wishes to establish himself in his community as the outstanding dealer, and grow with the industry, attracting to his store an ever-increasing volume of sales, must establish and maintain public confidence in himself. The surest and most lasting means of creating goodwill and confidence (says a prominent American radio trader) is by setting a high standard of quality and service right at the very start, and striving earnestly to maintain that high standard.

The average purchaser of a receiving set has little technical knowledge of radio, nor does he care to acquire it. Once the set is placed in his home and properly set up and equipped, all he wants to know is what switch he must turn on so that he may tour the air and enjoy the good things that are being broadcast from coast to coast every night of the year. The average purchaser leaves the matter of proper equipment very largely up to the dealer. It is not enough that the dealer sell him a GOOD radio, but also proper equipment—equipment that will give him satisfactory service for the longest possible period of time. My own experience has been that it pays to fit out all sets with the very best equipment, even at the risk of losing a sale now and then.

It is a simple matter to explain to the prospect where the difference in price comes in. If you equip your sets with heavy duty "B" batteries, a heavy "A" battery, standard, nationally advertised tubes of best quality, etc., your retail price of that set is going to be somewhat higher than the same set equipped with cheaper equipment, and not infrequently the prospect will tell you that another dealer has offered him the same make and model at a somewhat lower price, but when you show him "why" this difference in price, you strengthen his confidence in you, and nine times out of ten you can sell him your outfit at the higher price. Many dealers live in mortal fear of being underpriced by their competitors. They do not seem to realise that the public appreciates a better product, and that it is ready and willing to pay for it, so long as its quality is convincingly demonstrated. Usually when something can be bought for a lower price elsewhere, the prospect suspects that something has been skimmed somewhere to account for it. When this is the case he will readily accept a true explanation. The rule that you cannot get something for nothing is too well understood and too widely accepted to require much high power salesmanship to support it.



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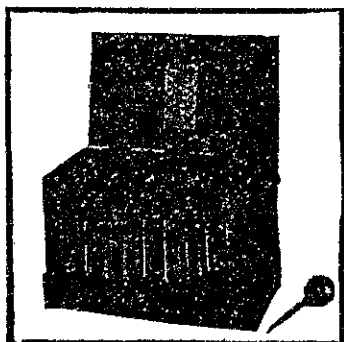
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BIG BEN

INTERESTING FACTS.

T. P. Sewell (Christchurch) writes:—I would like to correct what might give a false impression of "Big Ben." In your last issue a paragraph, culled from a Sydney paper, suggests that "Big Ben" was at least ten seconds wrong. The enclosed card, which I think worth copying in "Radio Record," will probably explain the apparent difference in time. The time is correct on the first stroke of the hour; that is, the chimes do not count, and I should think it would take sixteen seconds for the hour chimes. On Westminster Bridge stands an old man with a powerful telescope, and for 1d. you are allowed three minutes' view of "Big Ben's" face, and the enclosed card given in. I like your paper very much, and was agreeably surprised when I returned to New Zealand to find a new radio paper on the market of such a high standard.

"BIG BEN."

The great Westminster clock, striking on "Big Ben" in the clock tower of the Houses of Parliament, was made and fixed in the clock tower in the year 1858 by F. Dent, the predecessor of E. Dent and Company, Ltd., 61 Strand and 4 Royal Exchange, London, and has been in their charge ever since.

It is the largest striking, most powerful, and most accurate public clock in the world, the first blow on "Big Ben" at each hour denoting correct time.

The four dials are each 23 feet in diameter, the centres being 180 feet from the ground. The figures are 2 feet long, and the minute spaces 1 foot square.

The minute hands are 14 feet long and weigh about 2cwt. each; they are made of copper, and travel a distance equal to 100 miles each year.

The hour hands are 9 feet long and weigh much more.

The pendulum is 13 feet long, beating 2 seconds; the bob of the pendulum weighs 3cwt.

The weights of the clock weigh nearly 24 tons.

There are 374 steps up to the clock room.

Winding: This is now effected by electric motor.

"Big Ben," the bell on which the clock strikes the hours, weighs 13½ tons, and the hammer weighs 4cwt.

The four quarter bells weigh nearly 8 tons, viz., 3 tons 15cwt., 1 ton 13cwt., 1 ton 6cwt., and 1 ton 1cwt., respectively.

Twice a day it telegraphs its time automatically to Greenwich Observatory, which enables its performance to be checked.

The clock is now lighted by electricity, the twenty-eight lights being 10,000 candle-power.

Above the clock are the emblems of the Three Kingdoms and the Principality of Wales.

The chimes of "Big Ben" are set to the following lines:—

"All through this hour, Lord, be my guide,
And by Thy power no foot shall slide."

Under the clock: Domine Salvam Fac Regnam Nostrum Victoriam Primam. Laus Deo.

(O Lord, make safe our Queen Victoria the First. Praise be to God.)

At low levels of sound a change of 25 per cent. is necessary for the ear to detect the rise or fall of volume. At higher levels a change of 10 per cent. can be detected.

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From the Woman's Point of View.

By VERITY.

Mrs. Elmore leaves this week on her return journey to her home in England, and was accompanied as far as Wellington by her brother, Dr. F. Fitchett. Mrs. Elmore has been on a six months' visit to her father, the Dean of Dunedin, who is shortly retiring from his long ministry at All Saints' Church, to the deep and affectionate regret of those who have been privileged to find help and consolation, spiritual and intellectual, from his great gifts.

Round the Shops.

Evening cloaks are delightful, and many models are available suitable to women of varying ages and purses. A heavy black georgette cloak richly embroidered with oxidised bugles and diamante, and made with a shirred pillow is an example of exquisite taste. Another is an apple-green paillette-encrusted georgette wrap, with a handsome border of pink roses and a petal collar of georgette. A reversible gold lame cloak is lined with rich ruby-coloured velvet.

Ring Velvet.

For evening frocks the newest thing is ring velvet that is so drapable, soft and charming.

A lily-of-the-valley green frock, with a full, pointed skirt that reveals a dainty under-dress of silver lace has a flesh-pink georgette vest, and a pink flower at the waist.

A black ring velvet dress, made over a black underslip, has an effective "sunburst" design embroidered in diamante on both skirt and corsage. On another gown in Romney blue, draped gracefully to one side, a girdle of diamante forms a delightful finish.

Sleeves from Paris.

Sleeves which are almost tight to the elbow and have long, drooping Chinese cuffs which are caught in to the wrists are a feature of many of the latest coats, both in fur and fur-trimmed. Some sleeves are almost tight-fitting, with little gauntlets turned back over the hand. On an ermine coat which is made in shallow circular flounces and fringed with little black tails, the sleeves are full from the elbow to form a circular cape round the lower arm. The same shaped sleeve is used for cloth, silk, and velvet coats which are fur-trimmed.

A High Waist-line.

The waist-line, when indicated at all, is set above the hips and pinched in at the back, and on some skirts there is trimming below the hips of a fussy nature. Evening frocks are longer, but those which are worn during the day are still short. A circular flow at the hem of fur coats is an alternative to the long straight coat with a wide fold-over.

No Wonder.

The police doctor handed a high-brow magazine to the suspected inebriate.

"Read me something from that," he said.

The suspected one opened the book, gave one glance and then said, "It's all right, Doc. I'm drunk."

He had tried to read a poem by Gertrude Stein.

The Letters of Annabel Lee

My dear Elisabeth:

Adapting the Rubaiyat, myself when bored do oftentimes frequent a picture play, and find great devilment. The saccharine quality, however, was more evident in the latest Pickford production now running at the Empress, which is of that purely domestic variety in which the World's Sweetheart makes havoc of the sentimental heart. Although she has proved herself a sufficiently accomplished actress in more artistic roles, Mary clings closely to the Little Girl form of divinity, preferring to gaze childishly from fringed and liquid eyes, toss untidy curls, the while she smiles her way into the favour of immense, admiring audiences. Having said this, however, I am all admiration for the manner in which Miss Pickford acts the part of the adorably clumsy "store hand," is guardian angel to her feckless family, storms the affections and becomes the Best Girl of the son of the boss, unconvincingly masquerading as a fellow-employee. The little play moves along smilingly in familiar fashion through wet, wet streets, amongst incredibly rapid motor cars, including a quite idiotic court scene and the vindication of the heroine from mercenary motives, to a satisfactory finale on the boat for Honolulu, where we have our last glimpse of the lovers, clutched in a tornado of transport. All this and more also was obviously to the delight of the chewers of gum and chawers of ice cream who comprised the afternoon audience. Not that the absorption of saccharine sustenance is confined to picture fans; among a large number of the devotees of theatrical art, highbrow as well as lowbrow, apparently 'tis a law of the Medes and Persians that mastication is an aid to appreciation.

We are told that the delightful art of Miss Edna Thomas is to be broadcast by the B.B.C. This is good news for those who remember that charming warbler of negro spirituals and the melodies of the Creole, into the interpretation of which she infused an infinite subtlety and musicianly quality of a unique charm. Now, through the wonder of wireless, the beauty and pathos and rarity of her work will be appreciated by thousands, who otherwise would be unaware of the haunting melody and meaning of these songs of the mixed races.

Triumphantly in these days of simplicity of dress has many a plain Jane emerged from the ordeal of a chemise frock and shingled hair. It is doubtful if in any decade the woman of fifty, or even sixty, summers, has socially had a better run for her money than in this year of our Lord, and aren't we all glad to be alive nowadays instead of the prim and prurient days of Victoria the Good? All the same, "'tis true 'tis pity, and pity 'tis 'tis true," that lovely woman does not always look that best which is greatly desirable, however emancipated she may be. A great help thereto will be the veils that, I predict, are soon to descend upon femininity like quills upon the fretful porcupine—not an altogether happy simile, by the way. Consoling are these tiny wisps of tulle or lace that shade the eyes that are apt to screw up and become dull and fagged after a strenuous morning under a glaring sun and amid the screeching trams. And so we welcome the veil which, though only a tiny one, like the historic baby, is as veritably a veil as one worn by a sultan's favourite, and perhaps will prove as fascinating.

At a small, gay recent tea appeared a sports suit that is surely the precursor of what will prove a very attractive uniform for the busy, well-dressed woman. Very simple, very well cut, was this garment of softest satin on the so familiar jumper lines, in colour of twilight green, the low folded belt clasped in front with a brooch of opaque quality and splashed with the hues of a fading rainbow; the whole effect so artistically satisfying that 'twill encourage a sartorial epidemic among those who admit preference for clothing of the sports variety, now that the tweeds and woollens, once so popular in this connection, have been left in the lurch, and more seductive materials employed in the fashioning thereof.

In the realm of the ornamental it is worthy of note that birds and beasts and fishes flaunt a brief day. Particularly the former; and small-winged creatures flame suddenly in modish turbans and skull caps, given verisimilitude to feathered fowl by the addition of sweeping brilliant feathers of some defunct songster. How intriguing to the eye, par exemple, was a tiny bird of crystal, such as was never visualised by W. H. Hudson, with drooping tail of

green and blue plumes, its loveliness perched low at the side and adding piquancy to the demureness of a close fitting hat, worn with austere tailored suit of that black cloth that will make a bold bid for favour in the autumn that looms so close.

In "A Long Week End," an author who lately made a distinguished success in a study of modern youth, tries her hand at a short story with considerable originality and wit. She tells of two lovers who, by the fell clutch of that circumstance that is too much for most of us, are hindered from the marriage insisted upon by convention, and so go off together for an unsanctioned honeymoon. This somewhat ancient theme is played upon with vivacity, ingenuity and literary skill. The devotees of free love are stopped in their enlightened quest by the hazard of fate, and very amusingly made to act in entirely different fashion from those little plans that so woefully go "agley"; finally being roped in for the doing of good works in a small and pious township. And so back to Paddington station, whence they set forth with high hopes, to begin all over again, having been thwarted in their dash for liberty. Which goes to prove that fate still works for our good as well as for our ill, as Emerson told those who lived and loved in the dull days of the Victorian era, when matrimony was the golden goal of the young and frolicsome and also of the old and determined. I wonder if it still is.

"I sez to him, sez I," I overheard in Hill Street, "marriage ain't wot it wos, not wot it's cracked up. Marryin's no use to me, sez I to him, I don't think about it no more. I want a bit of fun, I sez, an' no worries..." nodding a battered head, on which reposed a hat decorated with what was once a feather, assisted by a bunch of the gaudy flowerets one associated with overflow baskets at sale-time.

Her companion shook a conventional head moodily. "Marryin's a sight better than this huggin'-muggin'," she said with finality. "My Jim married me after six months. I've never missed no one like my old man, and that's Gawd's truth. And he'll never come back no more," she finished with a break in the beery voice.

So, as ever, 'tis every man to his taste.—Your

ANNABEL LEE.

The Lure of Linen.

Love of linen is innate in woman-kind. You can always find numbers of the more sober-minded who consider that too much money and time is lavished on clothes and millinery; but when it comes to buying a dozen towels or a pair of sheets, all the world is your accomplice. This regard that linen inspires is not precisely to be explained. Even though linen is so beautifully adapted to its peculiar uses, other fabrics also have their peculiar uses, and in many cases more extended application. Is it due to the ancient origin of linen? Perhaps—and yet wool was used before linen. Certain it is, however, that the genuine housekeeper turns with pride, not to her stock of blankets nor her long-enduring carpets, nor her cotton quilts, but to her shining damask tablecloths and napkins, to her towels and her cool, glossy sheets. There it is! I do not seek to explain it; but linen has a rank, a regard in the world of textiles that is above all others—just as certain personalities stand pre-eminent in a room full of people.

Intrinsic Purity.

In Egypt in ancient times, when they embalmed their dead, they wrapped them in linen—for they knew it would outlast centuries—and now, 4000 years afterwards, when we dig these ancient up, the linen kindly laps them still, though other fabrics about them fall to dust at the first breath of air. In ancient Assyria and in Babylonia linen was always associated with royalty. In all ages it has stood for purity—the very word linen suggests a kind of intrinsic faultlessness. These are secrets of the human heart that do not allow of logical explanation. I enumerate them not, as has so often been done before, with a vague feeling that they constitute a reason why we should continue to buy and use linen to-day, but to show that the love of linen has persisted mysteriously in many ages, and been common to many different societies.—Mrs. R. Thomas, 2YA.

Pineapple Trifle.

Two stale sponge cakes, 1 tin pineapple chunks, 1 pint milk, 2 yolks of eggs, 1oz. sugar, 1 pint cream. Little essence of vanilla. Method: Cut sponge cakes into fingers and put into a dish with layers of pineapple between; soak in pineapple syrup, make custard, and when cold pour over cake, etc. Put a layer of pineapple at the top, whip cream, sweeten and flavour, and decorate the trifle with this. Sprinkle with chopped browned almonds.—Miss Marian Christian, 2YA.

Stewed Ox Tail and Tomatoes.

1 ox tail, 2 ozs. chopped ham, 1 oz. cornflour, 1 small onion, 4 or 5 tomatoes, 1½ pints warm water, 1 oz butter, pepper and salt, and bovril.

Method: Wash and remove the fat from the tail, cut into neat joints, melt the butter in a pan and fry till brown; also fry ham and onion sliced, and tomatoes sliced. Add water and simmer slowly for 3 hours. Put the tail on a hot dish, mix the cornflour with a little cold water, thicken the liquid with this, add pepper, salt, and bovril, and pour over the tail and serve.—Miss Marion Christian, 2YA.

Children's Sessions

AT 2YA.

Monday commences a new week in the realms of magic and fairyland. Toby and Jeff will bow before the microphone and lead you into a veritable hour of delight.

On Tuesday Uncle Jasper will take you still further into the entrancing land of joy. All this girls and boys who believe in fairies and gollywogs are invited to inspect the shady dales and glens of Fairyland. The members of Marsden School are coming.

Thursday—Uncle Sandy's hour. He will show you how the poets rhyme and say pretty things in Fairyland. The Cheerio Radio Club will sing their melodies and duets right from the heart of the woods.

On Friday Uncle Ernest will investigate this fancy realm and give us of his best for one whole hour. The Hataitai Sunday School Choir do not intend to let him spend the hour alone.

On Saturday Auntie Gwen and Auntie Dot, being also of an inquisitive nature, will visit the pixies and elves, and will spend an hour telling you all about their experiences.

AT 3YA.

Sunday, March 25:—Uncle Sam's hour of sheer delight to all children and grown-ups.

Monday—Uncle Jack and Aunt Pat (Aunt Edna is away on holidays)

are in charge to-night. Look out for Uncle Jack's stories!

Wednesday—Uncle Peter and Mother Hubbard, with their quips and pranks and stories!

Thursday—Chuckie and Aunt Pat. Another pleasant hour.

Friday—Big Brother with stories for big and little boys and girls.

Saturday—Uncle Sam and Auntie May—the usual treat every Saturday.

AT 4YA.

Sunday, March 25—On Sunday evening, at 5.45, the children's song service, conducted by Big Brother Bill, will be presented. He will be assisted by a choir of children's voices from the Hanover Street Baptist Church Sunday School.

Tuesday—Big Brother Bill will be right on the job to entertain thousands of kiddies who eagerly await his voice. Besides the letters, birthdays, and bed-time stories, there will be a programme of part songs and glees by the pupils of the Macandrew Road School.

Friday—Big Brother Bill will be assisted by Joyce at the piano, fairy music on the guitar from Big Brother Norman, recitations from Ruth, and mouth organ music from Ken. On this night we will have a thrilling trip in the famous wonder car to see the world's queer folk,

HEADS OF THE CLAN

GATHERING IN CHRIST-CHURCH

Our radio families have grown into a veritable clan, and a monster clan at that. There are thousands of nephews and nieces, and each station has its group of aunts, uncles, big brothers and so on. During a recent week it chanced that Uncle Ernest, of 2YA, Wellington, Uncle Leo, of 1YA, Auckland, and another gentleman from the northern city who gave the children some thrilling tiger stories "over the air," and was forthwith christened "Uncle Mack," were all in Christchurch together. Of their presence full advantage was taken at 3YA. Uncle Ernest talked about monkeys from his experience in South America; Uncle Leo about dogs he had known in Australia; and Uncle Mack, as previously mentioned, about big game hunting of his own in India.

It was a happy thought, therefore, when these visiting uncles were invited to meet their Christchurch colleagues before leaving on their homeward journey. There were present from 3YA, "Pollyanna," "Aunt Pat," "Uncle Jack," "Aunt May," "Uncle Sam" and "Big Brother."

The common interest of all in radio, and particularly in service for the young folk, formed a strong link of friendship and a fruitful topic of conversation. It was a delightful and memorable gathering. Unfortunately "Aunt Edna," "Aunt Vi," "Chuckie," "Uncle Peter," "Mother Hubbard" and "Peterkin" were unavoidably absent. Uncle Jack welcomed the visitors and extended greetings to their respective and various co-workers and radio families. "Uncle Ernest," who has been a radio uncle for two years, made a happy response. One could not but feel that our ever growing "clan" is fortunate indeed in its chieftains, and in the organisation responsible

for their appointment.

Wireless is still in its early stages. The services of the uncles and aunts may be regarded as more or less in the nature of pioneering work, but if the foundations are well and truly laid, then there are great hopes for the future. Being more or less in its infancy wireless will grow contemporaneously with the young and rising generation. They and it will, in the process, react and interact. If it is made a factor for good in their lives, they will come more and more to appreciate its almost limitless possibilities, and themselves to contribute to its splendid development in days to come.

The little function described above was a happy augury. No wonder the children's sessions are so popular!

UNCLE GEORGE AT 1YA

Owing to ill health, Uncle Leo, the Rev. Lionel Fletcher, has had to give up his week-day children's session. His place has been taken by Uncle George, who is in private life the Rev. George Coats, an Anglican clergyman.

A THOUGHT FOR CHILDREN FROM 2YA

"The world is so full of a number of things,
I'm sure we should all, be as happy as kings."
—Robert Louis Stevenson.

There once was a silly young negro,
Who sat watching a coconut tree grow;
At the start there was one
But before he had done
There would probably be quite a big row.

—E.L.R.

CHILDREN'S SUNDAY SERVICES

APPRECIATION OF UNCLE LEO

The Auckland Sunday School Union recently forwarded the following resolution to the Rev. Lionel B. Fletcher: "At the meeting of the Union held last night I was instructed to express the sincere thanks of the Sunday school teachers of Auckland for the helpful service being rendered by you on Sunday at 1YA. May your health permit you long to render such service."

WIRELESS AND THE FARMER

The Prussian Government has appointed a scientific commission to study the wonderful results that have been obtained with crops in the neighbourhood of the wireless aeriols of Potsdam.

The fields have been planted with wheat, rye, potatoes, and other vegetables, and in every case the crops produced by the land near the wireless aeriols were richer than those produced by similar land some distance away.

It has already been shown that crops can be increased by means of aeriols supplied with high-tension electricity suspended over the ground and it is quite possible that the immense amount of energy dissipated in space by big wireless stations will yet be turned to useful account in this way.

THE NEW ZEALAND Radio Record

PUBLISHED WEEKLY.

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

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Rate of Subscription: Single copies, 3d.; Annual Subscription (if booked), 12/6, post free; normal rate, cash in advance, 10/-, post free.

ADVERTISING RATES.

Schedule of Advertising Rates available from all advertising agents in New Zealand, or write: "Advertising Manager," Box 1032, Wellington.

Advertisements requiring setting should be in hand not later than Friday of each week to ensure publication in succeeding issue. Stereos and blocks, providing space has been arranged beforehand, can be accepted up to midnight Monday. Contract advertisements not changed will be repeated.

No responsibility is accepted for blocks, stereos, etc., remaining unclaimed after last use, beyond a period of three months.

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

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

WELLINGTON, FRIDAY, MARCH 23, 1928.

CONTROVERSY ON THE AIR

Cable messages recently announced that the British Government had decided to remove the ban preventing the British Broadcasting Corporation from broadcasting statements involving matters of political, religious or industrial controversy. The significant statement was added, however, that the Government had asked the Corporation to exercise discretion in utilising the power experimentally entrusted to it.

This is a very interesting development and follows quite a controversy which has raged round the question. Fuel was added to the flames on this issue by several debates which had been arranged on popular topics having to be abandoned because of the inability of one or other of the parties to the debate to observe the regulations imposed. As some of the protagonists of freedom from restrictions have urged, it is impossible to give vitality to any discussion on public topics without entering on the realm of controversy which is the very essence of public life.

Some may ask why there ever was any need to impose restrictions upon the matter being broadcast. The need is very apparent. Radio enters directly into the home—into homes of all classes and kinds, peopled by holders of diverse views on religious, political and industrial topics. On no one common ground do all meet, not even on the field of entertainment for to one what is music is to another anathema. For such a medium of universal entry to be made the medium of propaganda obviously had danger, hence the outstanding need for regulation.

That regulation is now to be relaxed and used with "discretion." Great discretion will be required—far greater discretion than is demanded in say the editorial conduct of even a great newspaper. Every paper evolves views in accordance with its policy and builds its public from those who appreciate and support that policy. Broadcasting cannot work on those lines. It cannot give the positive without giving the negative aspect. It cannot be one counsel—it must be both and leave the issue to the public as judge.

That the new phase will be interesting there is no doubt. Of one thing we may be certain—that is, that the new regime in itself will be the subject of controversy. Once the door is open, it will be the object of supporters of all aggressive missions, views and policies to "use" broadcasting for the furtherance of their objectives. A judgment cool as ice and decision hard as steel will be required by the ultimate director in wielding the discretion entrusted to him.

While everybody may be delighted in prospect we are fully assured everyone will not be delighted in retrospect. The disappointed and rejected of aim will be the most bitter of critics in a few months time. Yet it is an experiment that must be made. Life must have its hurly-burly—its strivings and its contests—and all that can reasonably be asked is fair play all round.

MUSICAL LIBRARY

The Broadcasting Company is keeping abreast of the very latest practices in regard to the radio service. This applies to all departments. Nowhere is this more evident than in regard to programmes.

To help its artists, a library, which will comprise every possible form of music, is being collected and located at the head office, Christchurch, where it will be available for the artists who perform at all stations.

The company has made arrangements to be kept supplied with all the latest productions of the world's leading publishers. This fine library of music will mean great programme variety.

Don't Wait
in the Queue—

—Renew
Radio
Licenses
NOW!

Safe Easter Holidays By Rail

Whether your trip at Easter is for sport or scenery, or merely for restfulness, it will be safe, cheap and comfortable by rail. Get the special railway booklet which shows you how to have the most enjoyment at least cost.

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

CHURCH BROADCASTS CHRISTCHURCH PRACTICE

"WORKING ADMIRABLY."

As the following article, from the pen of the Rev. D. Gardner Miller, will show, a very satisfactory modus operandi has been evolved in Christchurch in connection with the broadcasting of religious services.

The Rev. D. Gardner Miller writes:—

The broadcasting of religious services is now an integral part of the wireless service to the community. No one doubts its value, as thousands of letters from listeners testify.

Until recently, however, the method of selection was rather haphazard. Certain churches were "on the air" frequently, while others hardly got a look in. The responsibility of selection lay with the Broadcasting Company, and with as many as twenty churches clamouring for dates, it is not to be wondered at that confusion emerged.

Then Mr. Harris had a brain wave. He conceived the idea of placing the responsibility upon the churches themselves. An invitation was extended to every denomination to send a representative to a meeting in the studio to discuss the matter.

Six denominations responded. It was a lively meeting. There was a tendency on the part of some to base the broadcasting of religious services on the numerical strength of the denominations, but that was soon found to be impracticable. Finally a policy was hammered out, to which all agreed.

Put briefly, the following is the method now in actual operation:—

(a) A Church Broadcasting Advisory Committee, consisting of a representative from each of the following denominations: Presbyterian, Methodist, Baptist, Church of England, Church of Christ, and Congregational, meets monthly (with a member of the Broadcasting Company's staff as secretary), to arrange all matters pertaining to the broadcasting of church services.

(b) In any month containing a fifth Sunday, the company reserves the right to make its own arrangements. As a matter of actual fact, the company seeks our advice as to the suitability of any applications made for such Sundays.

(c) Each denomination has its date fixed by rotation; thus we know for months ahead when we will be "on the air," and can make our arrangements accordingly.

(d) The company holds one church in each denomination responsible for the date fixed. This means, for instance, that when the Congregational date is fixed I am responsible to the company for arranging which church of my denomination shall broadcast.

If, through unforeseen circumstances, the church agreed upon cannot fulfil the obligation, I must put my own service out.

(e) Alterations and "swopping" for special occasions (such as harvest festivals, etc.) must be made through the committee, not the company. It is understood that whenever possible six weeks' notice of such alteration should be given.

(f) All applications for special week-night services, organ recitals, missions, extra time on Sunday, etc., must be made to the committee, who shall make the necessary arrangements with the company.

It is understood, of course, that when applications are sent direct to the company, such are presented by the secretary at the monthly meeting.

The above has been in operation since shortly after Christmas. It is working admirably. The greatest friendliness and unanimity exist between the members of the Advisory Committee and between them and company.

A few minutes each month is all that is required to transact the necessary business. Our dates are arranged far ahead.

The latest move of the committee is the suggestion that the denomination broadcasting should also arrange for its Sunday School to take part in the children's service the same evening.

The setting-up of this committee has solved a thorny problem, and now everything in the garden is lovely.

WHAT THE CHURCHES SHOULD DO?

REV. LIONEL B. FLETCHER'S
ADVICE.

The following is an extract from an address given by the Rev. Lionel Fletcher at the Congregational Conference recently held in Christchurch, in which he urged that the Churches should confer for the purpose of: Facing up to the whole question of the broadcasting of Church services with the idea of endeavouring to come to an agreement that all denominational references shall be cut out of the services that are to go over the air; that as far as possible, while retaining the distinctive character of those services, whenever a service is broadcast it shall be a service in which the preacher shall devote the time at his disposal to proclaiming the gospel of Christ, so that all cause for suspicion shall be eliminated and the one object of bringing the people to know and serve our Lord shall be served.

That the resources of the whole of the Churches shall be placed unreservedly at the disposal of the Broadcasting Company of New Zealand,

so that both morning and evening, if necessary, on the "Sunday" services shall be sent out (at least during the summer, when people are away from the Churches on holidays), and that at stated times, either in the morning or evening of ordinary days, family worship shall be conducted, as is done in America.

Another Year of Broadcasting

Under the above heading the Christchurch "Sun" publishes the following from the pen of Mr. C. R. Russell, M.Sc., M.I.R.E., late of Wisconsin, U.S.A., and well-known in listeners' circles in Christchurch:

"Over a year ago Mr. A. R. Harris, general manager of the Radio Broadcasting Company, stated that when the number of listeners had reached a certain figure, the broadcasting service would be improved.

From the unbiased point of the listener, the Broadcasting Company has fully carried out its promise. Commencing with the appointment of Mr. W. J. Bellingham, F.S.M., to the position of general programme organiser, there has been a steady improvement in the programmes from each of the four stations, until it is now extremely doubtful whether as good programmes can be had from the Australian stations.

Among the special feature broadcast during the year might be mentioned the Maori Pageant, Edison Night, Mr. Amery's speech, and several very successful rebroadcasts.

There has, of course, been criticism of the programmes, some listeners wanting jazz, some not wanting jazz, and so on, all going to prove every listener cannot be pleased. The programmes from the four stations appear to cater as far as possible to all classes of listeners, while the afternoon gramophone recitals and children's hour are appreciated by a large number of listeners.

Criticism has been levelled at the internal operations of the Broadcasting Company, particularly with regard to its staff; this, however, is of no concern to the listener, and is purely a matter for the company. The Broadcasting Company has, in the writer's opinion, given New Zealand an excellent broadcasting service, and it is to be congratulated on the service it has offered for the past year."

SPORTING

COMING BROADCASTS

TROTTERING AND CRICKET

Two outstanding features are set down for description next week—the meeting of the Wellington Trotting Club and the second Test match Australia v. New Zealand at Dunedin.

With regard to the Wellington Trotting Club it is pleasing to note the progress the light harness sport is making in the capital; for after a long period of struggling against heavy odds the club is now coming into its own and attracting its share of visitors and local sportsmen. For many years the other centres in New Zealand were the scenes of progressive and interesting sport, but the Wellington Club, while doing its utmost, was unfortunately unable to attract the patronage bestowed on the luckier clubs in the other centres.

One of the main reasons of this was the fact that Wellington had very few permits, and it was only after much representation that these permits were extended to allow the club to race on four days a year. At the beginning these permits were used to provide two two-day meetings, and although things improved considerably there was still not much encouragement to the officials. The next experiment tried was the holding of the four days at different times, that is, four one-day meetings. That this departure has been an unqualified success there is no doubt, and all who have seen the last two meetings of the club will want to be present at Hutt Park on Saturday.

The club provides for the best class trotters and pacers, as well as confining a race or two to novices, and the general result seems to be to everyone's satisfaction. There is no doubt as to

We are sorry to announce that our contributor, M.I.R.E., whose very excellent articles on radio have been enjoyed for some months past, finds himself compelled for the present to suspend this work. We know from a number of readers that his advice and explanations on radio topics have been much appreciated. As soon as conditions permit we shall be glad to resume this series.

the progressiveness of the executive, as after their first successful meeting they immediately thought of the comfort of their patrons, and provided extra stands and totalisator accommodation. The new totalisator house is a fine building, with a feature, in that the numbers are of large size and are easily read from a distance. As further evidence of enterprise, the club is at the forthcoming meeting making a step in quite a new direction, by providing the richest stake of the day, £150, to a straight-out trotters' race, with the short limit of 4.37 or better. This stake and the class should ensure a great field, and from the nominations it will be seen that this race has attained its object.

Among the trotters nominated is that perfect-actioned horse, the American trotter Peterwah. If this horse should be at the meeting, patrons will see some trotting worth while, as Peterwah is generally regarded as the finest type as to conformation and action that has yet been seen in this country. Others of high class are nominated in this race, such as Cannonball, Young Blake, Ilzear, Sister Beatrice, Peter Swift, Money Spider, Bonny Spec, and Engagement, all proved performers. It should be a classic contest, and is sure to arouse the large crowd to the highest pitch of excitement.

The big race for the hopped brigade is the March Handicap, with a limit

2FC AND 2BL CO-ORDINATE

The following official joint statement has been issued by the directors of 2FC, Limited, and Broadcasters (Sydney), Limited:—

Negotiations between 2FC, Limited, and Broadcasters (Sydney), Limited (2BL), which have been proceeding for some time past, with the object of devising a scheme that will be a first important step towards meeting the wishes of the Commonwealth Government for the co-ordination of the "A" class broadcasting services, have been satisfactorily concluded.

The Commonwealth Government, at a conference convened by the Prime Minister in Melbourne in November last, invited the "A" class broadcasting companies throughout Australia to endeavour to work out a scheme of co-operation and co-ordination of the services, and the Postmaster-General has since made a definite request that such a scheme should be proceeded with.

The directors of 2FC and 2BL have made every effort to fall in with this scheme, and the negotiations which have been proceeding to this end have now been satisfactorily concluded.

The co-ordination will bring about the closest co-operation in the services of 2FC and 2BL, thus ensuring to the listeners-in a maximum of efficiency and variety in the programmes, and at the same time eliminating much duplication which has been unavoidable in the past.

Already letters are arriving at both stations congratulating both parties on the move.

In the past New Zealanders have often regretted to hear 2FC and 2BL simultaneously broadcasting lectures or giving out news items at the same time. By co-ordination this sort of thing will be obviated.

VALUE OF TIME

The publicity value of broadcasting has assumed a prominent aspect lately in New Zealand, owing to the view expressed that the Broadcasting Company should pay for relays from various attractions. In America the advertising value of broadcasting has long been recognised, and is well paid for by the advertiser.

It was in 1921 that a station was erected for the purpose of "selling time." That was the beginning of commercial broadcasting in the United States. The station erected was WPAF, and it was owned and operated by the American Telephone and Telegraph Company for several years. Because it was operated at such a heavy loss, and the company, being a public service corporation, not being in a position to conduct anything but needed enterprises at a loss, it eventually separated this broadcasting activity and formed the Broadcasting Company of America to operate WPAF.

In America all stations broadcast advertisements in their many guises. This is their only source of revenue, and very high prices are paid for "time," a common figure being 1000 dollars a minute, in addition to which the advertiser pays for the artists who provide the concert he sponsors.

In New Zealand, no such advertising is done, the revenue being derived from the listeners' license fees. It is small wonder that a writer, and a recognised authority on broadcasting in U.S.A., recently said that the New Zealand system was the best in the world.

of 4.38, and this race has also attracted a high-class field.

A point worthy of mention is that the officials of the club, led by the president, Mr. R. A. Armstrong, have always been keen to take advantage of the facilities provided by the Broadcasting Co., and welcome this means of making their sport more favourably known to listeners. Every meeting of the club since the opening of 2YA has been heard on the air. It only needs good weather conditions to ensure a larger attendance at the meeting, and all present are assured of an entertaining day's recreation.

At Dunedin on the same day the Test match opens, and though the New Zealand team is not available at the time of writing, there is every likelihood of the visitors being more thoroughly tried out than in any previous game of their tour.

Some Features of Next Week's Programmes

Madame "Butterfly" at 1YA

OUTSTANDING BROADCAST FOR TUESDAY

The second act of "Madame Butterfly" will be produced in the studio by Madame Irene Ainsley on Tuesday evening. The Japanese tragedy, founded on the book of J. L. Long and the play by David Belasco, is one of Puccini's most popular operas. The story concerns an American who marries in Japanese fashion Cho-Cho-San, known as Madame Butterfly. Three years later he returns with an American wife, to find that his first love has remained true to him. She, broken-hearted, kills herself with her father's sword, on which is the inscription:—

"To die with honour,
When one can no longer live with honour."

The opera is full of tuneful songs. The various parts will be taken by Miss Nancye Hanna, Miss Marjorie Fair, Mr. Arthur Ripley and Mr. Walter Brough.

The first portion of the programme will be contributed by the same vocalists. The Studio Trio will play the "Andante and Scherzo," from the Trio by Reimecke, and on the lighter side a selection from Wagner's "Tannhauser."

1YA JOTTINGS

The programme for Wednesday evening will consist mainly of the relay of the Municipal Organ Recital from the Auckland Town Hall, the organist being Mr. Maughan Barnett. At the conclusion of the recital the Hazell-Sutherland Duo will be heard in contralto and baritone solos and duets, and humorous sketches will be given by Miss Lynda Murphy.

Several well-known performers will be contributing to Thursday's programme. Miss Mina Caldwell's solos will include "When the Swallows Homeward Fly" and "Out of my Soul's Great Sadness." Baritone solos will be sung by Mr. Barry Coney, one being "The Handy Man" and another "The Old Countess," by Pinsuti. Those well-known favourites, The Snappy Three, will harmonise in several of the latest ballads. Miss Lola Solomon, soprano, will contribute several items, including "My Hero," from the opera "The Chocolate Soldier," by Stanislaus. Mr. Coney and Miss Caldwell will also be heard in a vocal duet, "Dear Love of Mine," by Goring-Thomas.

An outstanding item on Thursday's programme should be "Chopiniana," arranged by Roberts, and played by the Bosworth-Hemus-Towsey Trio. Mr. Cyril Towsey will play "The Wanderer," arranged by Liszt.

The vocal items for Friday evening will be contributed by Madame Mary Towsey's Quartet, comprising Miss Gwendyth Evans, Madame Mary Towsey, Mr. Reginald Newbury, and Mr. John Brce. The quartet numbers will be "Three Fishers" and "Brightly Dawns our Wedding Day." Mr. J. F. Montague, the well-known elocutionist, will be heard in a recital, "The Wedding Day," and a humorous sketch, "A Case of Guilt." Violin solos will be played by Miss Ina Bosworth, her numbers being "Humoresque," by Dvorak, and "Veronese," by Handel. The Bosworth-Hemus-Towsey Trio will render among other items "Valse des Fleurs," by Tschakowsky.

Mr. Newbury, who is to sing on Friday evening, is a new comer to the microphone, and his sympathetic tenor voice should find warm favour among listeners.

The programme for Saturday evening will be given by the Lyric Quartet, assisted by Miss Alma McGruer, soprano. The quartet's numbers will include the "Grand Bridal Chorus," from "Tannhauser," by Wagner, and the "Wedding March," from "Lohengrin," by the same composer. The various members of the quartet will contribute solos, and Miss Alma McGruer, who will be heard in concerted work with the quartet, will include among her solos "Break o' Day."

The church service for Sunday evening will be relayed from the Auckland Unitarian Church, the preacher being the Rev. Albert Thornhill. At the conclusion of the church service the Municipal Band Concert will be relayed from the Auckland Town Hall, the band being under the baton of Mr. Christopher Smith.

2YA NOTES

The Blude Quartet, Mr. Stanley Warwick, the Studio Trio, Miss Ava Symons and Mr. L. W. Rothwell, are the artists for Monday's programme at 2YA. It will be a well varied entertainment. The concerted items by the quartet will be very bright, including as they do "Mayday" (by Muller), a fox-trot number, "Under the Moon," which has been arranged by Mr. Len Barnes, and that popular plantation song, "Old Black Joe," in which the baritone solo portion will be sung by Mr. Ray Kemp. An old Irish folk song will be sung by Miss Greta Stark, "All Round My Hat." "My Dear Soul" will be sung by Miss Rita Arnold, and Mr. Frank Skinner will sing "A Spirit Flower."



TARANAKI STREET METHODIST CHURCH CHOIR, TO BROADCAST SPECIAL SERVICE ON APRIL 1, PALM SUNDAY.

This choir can trace its history back 88 years, to 1840. It has always been an influential musical combination in the City of Wellington, and never more so than at the present time. Mr. H. Temple White, the organist and choirmaster, has held that position for 14 years, during which period his work has been marked by conspicuous ability and success. Since the war, the choir has enjoyed steady growth, until at the present time the roll stands at 55. All the present members of the choir have joined since 1913. It is a choir of useful voices, and is looked upon as being one of the leading choirs of the city. The minister in charge of the church is the Rev. Clarence Eaton.

The elocutionary items, which are to be given by Mr. Stanley Warwick on Monday evening, will be "The Duet," and a sketch, "The Monkey's Paw."

Supplementing the Orpheus Quartet on Monday evening will be the Studio Trio, Mr. Lad Haywood (whose Italian mandolin items are always so popular), Miss Effie Brice (elocutionist), and Mr. A. H. Wright (saxophone).

Operatic and humorous numbers will be sung by the Orpheus Quartet on Tuesday, when a varied programme will be broadcast. The quartets are, "The Torpedo and the Whale" and "We've Flowers for You," by May Brahe, a number breathing all the beauty of summer. Mrs. Alice Harris and Mr. Len Barnes will sing the duet "A.B.C.," by Parry—a conversation between a foreigner trying to learn English and his teacher. Mrs. Harris will sing "The King of Thule" (from Gounod's "Faust"), and Mr. Len Barnes will sing the famous "Toreador Song" (from "Carmen"). Miss Lily Mackie's contributions are "O Peaceful England," from "Merrie England," with quartet chorus, and also "A Song at Sunset." Mr. Arthur Coe will sing Schubert's famous song, "Who is Sylvia?"

A well assorted programme will be played by the Municipal Tramways Band on Thursday evening, and the Clarion Quartet of male voices will render some of their best. This evening there will also be a lady vocalist, Miss Ailsa Nicol, mezzo-soprano.

Among the quartets on Thursday will be the old favourite, "Die Lorelei," and a fox-trot number by Fisher, arranged by Mr. Len Barnes, "Fifty Million Frenchmen." Mr. James Cook will sing another rollicking number, "A Jolly Old Cavalier," and Mr. Ray Kemp will give "King Charles" with its pathos and patriotism. Mr. Will Hancock will sing "Country Folk" and "Where the River Shannon Flows," and Mr. Frank Skinner, a beautiful Scottish number, "My Mary, Sweet and Brown." The duet from "La Boheme," by Puccini, "Rickle Hearted Mimi," will be given by Messrs. Kemp and Skinner. In this item the poet and the artist bewail the fact that Mimi has so soon forgotten her lover. Two very pretty quartets are to be sung by the Apollo Quartet on Friday evening. One is that popular cradle

song, "O Hush thee, my Baby," and "A Night of Love," a very pretty waltz. Miss Hilda Chudley will sing "Bring her again, O Western Wind," Quilter's brilliant composition on the western wind. Mr. E. W. Robbins has selected his solos from the ever popular Indian Love Lyrics of Woodford-Finden, while Mr. S. E. Lodger will sing "The Corporal's Ditty," Squire's breezy song of a soldier who was lucky in war but not in love.

On Friday's programme at 2YA, apart from the Apollo Quartet, contributing artists will be the Studio Trio, Messrs. Berthold and Bent (the Hawaiian Duo), and the Two Boiled Owls, one of whose items will be an original one entitled "2 B.A.D."

Miss Moana Goodwill, the soprano of the Apollo Quartet, is another of the brilliant group of pupils of Mr. H. Temple White, of whom Miss Myra Sawyer and Messrs. Frank Bryant, Samuel Duncan and William Boardman are now so well known to listeners. Miss Goodwill has a charming, fresh, musical voice, and she is in constant demand for musicales and concert work. As an elocutionist, too, she has quite a reputation, so that listeners will welcome the inclusion

already known to 3YA listeners, who will look forward to his next appearance before the microphone.

A programme of negro spiritual and plantation songs will be given by the Madame Gower-Burns Grand Opera Quartet on Wednesday. Listeners will enjoy the entertainment to be provided by this versatile combination. The concerted items will be a feature of the evening. Old favourites such as "Hard Times Come Again No More" and "Swanee River" will be sung. There will also be songs which are not so well known. Altogether, the programme will be of a very enjoyable nature. Associated with the quartet on the programme will be the Studio Trio, Miss Aileen Warren (pianiste) and Miss Mayis Ritchie (elocutionist).

"Raglan Gymraeg." Anyhow, it is a Welsh concert that is on at 3YA on Friday evening, the vocalists being the Melodious Four. Airs which are old favourites, and some that are new to most people, will be sung. Mr. R. Ohlson, medallist at band contests, will contribute cornet solos, and Miss Lucy Cowan will give elocutionary items of a Welsh flavour.

The Radio vaudevilles of 3YA are popular Saturday night fixtures with

Cherry, and Mr. F. C. Penfold. Clarinet and cornet solos will be played by Mr. M. E. Withers and Mr. P. W. Reeves respectively.

Miss Dulcie Mitchell, L.R.A.M., who is now singing regularly at 3YA, is a New Zealand singer who attracted considerable attention when at Home. She studied first at the Royal Academy of Music, under Signor Alberto Randegger, where she gained bronze and silver medals, and a certificate for teaching singing. She appeared in opera at the Royal Covent Garden Opera House during the 1913-14 season, and also in the provinces. British newspapers spoke very highly of Miss Mitchell. In "Times" said: "Another voice of notable quality, but more glittering, stirring, and intrepid was that of a young New Zealand lady, Miss Dulcie Mitchell." "Musical Opinion" said: "Miss Mitchell is clearly a contralto who counts in the musical world today."

AT 4YA

The service from Knox Church will be broadcast on Sunday. The preacher will be the Rev. Tulloch Yuille, B.D., M.A., and Mr. W. Paget Gale will be the organist. Following the church service it is probable that a band concert will be relayed.

The evening concert on Tuesday will be provided by the St. Kilda Band, under the baton of Mr. James Dixon, and items will be heard from assisting artists. A popular number which will be played by the band is the old "Druid's Prayer," by Davson. A fine arrangement of "Maritana" is also on the programme. Mr. Reg. Richards will sing baritone solos, Mr. J. Ferguson will provide bass numbers, and Mr. Charles Rowand, the well-known comedian, will present a humorous entertainment. Miss Anita Winkel will be heard in some elocutionary numbers, and Mr. J. B. McConnell will recite selections from Dennis's "Sentimental Bloke."

Previous to the concert on Tuesday, at 7.30 p.m. Mr. R. W. Marshall, Dunedin manager of the Government Tourist Department, will lecture on popular tourist resorts. Thursday night's programme will be

most interesting. Several well-known songs from musical comedies and comic operas are down for this night. Miss Rita Holmes has chosen "My Hero," from "The Chocolate Soldier" (Strauss), "Love Nest," from "Mary" (Hirsch), and "Some Day Waiting Will End," from "Kissing Time" (Carlyle).

Mr. F. M. Tuohy will sing "Love and Wine," from "Gipsy Love," the "Cobbler's Song," from "Chu Chin Chow," and "A Bachelor Gay," from "The Maid of the Mountains." There will also be other vocal and instrumental items. Miss Eileen Williams, L.A.B., L.T.C.L., will provide some classical pianoforte solos, including Liszt's "Liebestraume No. 3." The keenly-awaited Thursday evening feature, Pastor W. D. More's address, will take place.

At 7.30 p.m. on Friday evening Mr. H. Greenwood, librarian of the Dunedin Athenaeum, will review the latest fiction.

Friday night's programme will be of a high standard. Miss Sheila Neilson will recite three works from the old masters, "Lorenzo's Eulogy on Music" (Shakespeare), "Crossing the Bar" (Tennyson), and "The Old Clock on the Stairs" (Longfellow).

A number on this programme which is sure to meet with much approval is a tenor solo by Mr. L. R. Dalley, "Mary."

At 7.30 on Saturday evening the second of a series of addresses on "Amateur Photography," by a member of the Dunedin Camera Club, will take place.

Most of the best-known artists will contribute to Saturday evening's programme.

—Photo, Crown Studios.

in the programmes of so versatile an artist.

There is no gainsaying the fact that the Saturday night programmes broadcast from the studio of 3YA are greatly enhanced by the items which are presented by the popular "Melodie Four" Male Quartet, and on March 31 listeners will have another opportunity of hearing this versatile combination.

A duet from Verdi's opera, "La Forza del Destino," "Solemn Inquest Ora" will be sung by Messrs. S. Duncan and R. S. Allwright, and the other concerted numbers will include "The Birth of the Blues" and the quartet's original arrangement of "Drifting and Dreaming," which is being repeated in response to numerous requests. Mr. S. Duncan (tenor) will be heard in "I Hear you Calling Me," and Mr. F. Bryant (tenor) will sing a bracket of two songs, "Only the River Running by" and "Thoughts."

Mr. W. W. Marshall (basso) will render Dix's rollicking song, "The Miller of Winchester," and Mr. R. S. Allwright (baritone) will present two delightful songs entitled "Two Songs for My Lady," by Foster. This is the first time these songs have been broadcast in the Dominion.

NOTES FROM 3YA

The miscellaneous nature of the programme on Monday evening will appeal to all. The band will be that of the First Canterbury Regiment, the items to be played being of a diversified nature. The Beckenham Male Quartet will present one of their usual variety programmes. As is their custom, one item will be of a topical nature.

Miss Winifred Smith, who is giving a musical monologue and a humorous recitation at 3YA on Monday evening, is a prize-winner at competitions and holds the L.T.C.L. award.

The Dulcet Quartet will provide a miscellaneous programme on Wednesday evening, assisted by Mr. A. H. Todd, elocutionist, the Studio Trio, and Miss Aileen Warren, pianiste.

Mr. A. H. Todd, who is to give two elocutionary items on Wednesday evening, is a teacher of elocution in Ashburton. He has been an adjudicator at competitions. His ability is

many thousands of listeners. Next Saturday there will again be an aggregation of artists of widely differing talents. There will be popular melodies from Mr. E. W. Heald's concertina, old favourites from Mrs. D. W. Stalard, popular and well-played music from the Studio Trio, duets from the "Count of Luxembourg" as sung by Miss Mabel Thomas and Mr. Dave McGill, humorous recitations from Mr. Laurence, baritone songs from Mr. E. A. Dowell (one in response to many requests), and songs at the piano by the ever-popular Mr. R. A. Sargent.

On Thursday evening, Mr. H. W. Beck will commence a series of lectures on poultry keeping for profit.

Knox Church (Presbyterian) will be on the air for the first time on Sunday evening. Following the service will be a studio concert, for which an exceptionally good programme has been prepared. The vocalists will be Mrs. Percy Jowett, Miss Lynda Mills, Mr. Thorp

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NOTES AND COMMENTS

(By "Switch.")

A course in radio announcing is open to students at the University of South Dakota, U.S.A., and a dozen men students are enrolled in the first class to be organised.

A proposed by-law at Little Rock, Arkansas, U.S.A., would declare a public nuisance any electrical equipment radiating waves detrimental to radio reception. The Bill, twice read before Council, has been approved by Mayor Charles E. Moyer, himself a radio enthusiast, and by the lighting and public utilities committee.

Sulphate begins to form when a battery is in a run-down state. "Switch," having a home-charger, gives his wet "A" and "B" batteries a charge every two or three days to keep them up to full strength. He gets, on an average, fourteen stations in New Zealand and Australia every night on the loudspeaker, using a four-valve Brown-Drake circuit.

In the past three years the radio industry has risen from the 34th to the 12th in the big manufacturing business of the United States.

A valve will become inoperative if the filaments are subjected to continuous overheating. Most of the valves now in common use are of the thoriated-tungsten type. This type depends upon a surface layer of thorium oxide for its electronic emission, and this active layer is automatically deposited or formed on the filament when the valve is operated at a certain temperature. Never turn on any valve brighter than necessary.

The San Francisco "Examiner" says: "Radio clubs throughout the country have dwindled somewhat, because the members cannot find time to attend the meetings. During the winter they spend all their time DXing in an effort to outdo their fellow club members." This seems to be the main source of trouble with the radio clubs in New Zealand.

The average new radio owner is inclined to return his set to his dealer because he cannot tune-in China the first night the radio is installed. This type takes everything for granted, and never considers how much time and effort is wasted by the one who accomplishes this sort of a feat.

Every radio fan in Paris gets a chance to take the place of the speaker at a local transmitting station, and share his glories for a few brief moments. To attain his ambition he has to be the first to ring up the transmitting station on the telephone and give the answer to a riddle. It is then his turn to proceed to the station next evening and from the speaker's stand ask all the listeners in another.

An outdoor aerial must not touch anything unless it is an excellent insulator, and the fewer points it touches, even though they are insulators, the better the aerial insulation and the more energy comes to the receiving set.

If for any reason a storage (wet) "A" battery of the lead plate type is to be stowed away for some time it should be fully charged and the electrolyte removed. The electrolyte may later be poured in, the battery charged and put into operation.

The French housewife's fight against unsightly loudspeakers is causing makers to disguise them in all sorts of artistic ways. The sounds of the radio set issue from a small marble fountain in a corner of the room in one radio set put on the market in France.

All dues in the Spokane Radio Listeners' Association at Spokane, Washington, U.S.A., have been abolished. Hereafter any radio listener in Spokane may become an association member by registering his name with the organisation. Some listeners seem to want a bonus for joining a New Zealand radio club!

The aerial should never be forgotten, as it is the source of many difficulties. It must not run parallel to high tension wires. It should be well insulated and the lead in free from contact with any grounded object.

The municipal telephone management of Rotterdam, Holland, is planning the distribution of radio programmes over the telephone to subscribers. The system has been in use in The Hague for the past year, and is reported to have proven popular. The installation expense is said to be small and a moderate annual fee is also charged.

Does ether transmit waves? In his address before the delegates to the international radio telegraph convention attending the dinner in honour of Marconi, David Sarnoff, vice-president of the Radio Corporation of America, made the following observations on the behaviour of radio waves: "Professor Einstein tells that 'ether' does not transmit light; it must follow therefore that 'ether' does not transmit electromagnetic waves. If this view is correct, it completely removes the invisible track which our first theories erected to speed the radio signal through space. It becomes no longer correct then to refer to 'ether waves' or to 'ether channels' in radio transmission. Under this new theory we must refer to them as 'space channels'."

Sunday, March 25th

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

3 p.m. Special afternoon musical service conducted by the International Bible Students' Association.

4.30: Close down.

6.0: Children's service conducted by Uncle Leo.

6.55: Relay of church service from St. James' Church. Preacher: Rev. E. R. Harries.

8.30: Relay of organ recital from Auckland Town Hall. Organist: Mr. Maughan Barnett.

9.30: A thought.

9.32: God Save the King.

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

6 p.m.: Children's service conducted by Uncle Ernest.

6.55: Relay of evening service from St. Gerard's Redemptorist Church.

8.30: (Approx.)—Studio concert.

Vocal trio—Ariel Singers, "Serenade" (Moskowski).

Pianoforte solo—Mr. Gordon Short, "Slow Movement of Sonata in F Minor" (Brahms).

Soprano solo—Miss Jeanette Briggs, "Angels Ever Bright and Fair" (Handel).

Instrumental quartet—Symons-Ellwood String Quartet, (a) "Maori Lament" (Hill); (b) "Scherzo from D Major Quartet" (Tschai-kowsky).

Bass solo—Mr. J. M. Caldwell, "Pass, Everyman" (Sanderson)...

Vocal Duet—Misses J. Briggs and N. Coster, "Long Ago" (Birch).

Instrumental quartet—Symons-Ellwood String Quartet, "1st Movement F Major Quartet" (Beethoven).

Tenor solo—Mr. Roy Hill, "How Vain is Man," from "Judas Maccabaeus" (Handel).

Mezzo-contralto solo—Miss Ngaire Coster, "A Spirit Flower" (Tipton).

Instrumental Quartet—Symons-Ellwood String Quartet, "Song Without Words" (Mendelssohn).

Vocal quartet—Ariel Singers, "The Builder" (Cadman).

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

5.45 p.m.: Children's song service conducted by Uncle Sam, assisted by scholars from the Richmond Presbyterian Sunday School.

6.30: Relay of evening service from East Belt Wesley Church, Fitzgerald Avenue. Sunday School Anniversary. Preacher—Rev. W. Green-slade. Organist—Mr. L. Rickard. Choirmaster—Mr. W. Sherris.

8.0: The following concert programme will be given from 3YA studio after the service:

Recitative and baritone solo—Mr. J. Francis Jones, "Lord God of Abraham" from "Elijah" (Mendelssohn)...

8.4: Contralto solo—Miss Edna Johnson, "In a Monastery Garden" (Ketelby).

8.7: Pianoforte solo—Mr. Fred Page, "Allegro from Viennese Carnival" (Schumann).

8.14: Tenor solo—Mr. W. Bradshaw, "Mountain Lovers" (Squire).

8.18: Mezzo-soprano solos—Mrs. Eleanor Prescott, (a) "By the Waters of Babylon" (Dvorak); (b) "Negro Spiritual—My Lord What a Mornin'" (Burleigh).

8.25: Flute solo—Mr. W. Hay, "Fantasia" (Powell).

8.30: Baritone solos—Mr. Francis Jones, (a) "Requiem" (Homer); (b) "Beloved! It is Morn" (Aylward).

8.37: Soprano solos—Miss Muriel Johns, (a) "God Touched the Rose" (Brown); (b) "Only the River Running By" (Hopkins).

8.43: Pianoforte solos—Mr. Frederick Page, (a) "Prelude in A Flat" (Chopin); (b) "Mazurka, No. 17" (Chopin).

8.48: Soprano and contralto duet—Misses Muriel Johns and Edna Johnson, "Sweet and Low" (Barby).

8.52: Tenor solos—Mr. W. Bradshaw, (a) "The Trumpeter" (Dix); (b) "Absent" (Metcalfe).

8.58: Mezzo-soprano solo—Mrs. Eleanor Prescott, "Like as the Hart Desireth the Water Brooks" (Allitsen).

9.2: Flute solo—Mr. W. Hay, "Offertoire" (Donjon).

God Save the King.

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

5.45 p.m.: Children's song service, conducted by Big Brother Bill, assisted by a choir of Children's voices.

7.0: Relay of evening service from Knox Church. Preacher—Rev. Tulloch Yuille, B.D., M.A. Organist—Mr. W. Paget Gale.

8.15: Band concert.

9.15: God Save the King.

Monday, March 26th

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

SILENT DAY.

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

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

3.1: Selected gramophone items.

3.30: Lecturette on "Fashions" by a representative of Messrs. James Smith, Ltd.

3.45: Selected gramophone items.

5.0: Close down.

6.0: Children's session—Uncles Toby and Jeff—birthday greetings, songs and stories.

7.0: News session, market reports and sports results.

7.40: Lecturette.

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

8.1: Overture—"Stars and Stripes March" (Sousa).

8.5: Vocal quartet—The Etude Quartette, "Mayday" (Muller).

8.10: Flute solo—Mr. L. W. Rothwell, "Valse Bijoux" (De Lorenzo).

8.15: Recital—Mr. Stanley Warwick, "The Duet" (Wilcox).

8.20: Instrumental Trio—Symons-Ellwood-Short Trio, "First Movement of Trio in D Major, Op. 70" (Beethoven).

8.30: Soprano solo—Miss Gretta Stark, "A Heart That's Free" (Robyn).

8.35: Violin solo—Miss Ava Symons, "Chanson Meditation" (Cottenet).

8.40: Baritone solo—Mr. Ray Kemp, "Cloze Props" (Charles).

8.45: Pianoforte solo—Miss Gladys Turner, "Waltz" (Brahms).

8.52: Contralto solo—Miss Rita Arnold, "My Dear Soul" (Sanderson).

8.57: Flute solo—Mr. L. W. Rothwell, "Carnival de Venice" (Briccialdi).

9.2: Weather forecast.

9.3: Tenor solo—Mr. Frank Skinner, "A Spirit Flower" (Tipton).

9.8: Elocutionary sketch—Mr. Stanley Warwick, "The Monkey's Paw" (Jacobs).

9.18: Instrumental trios—Studio Trio, (a) "Nina" (Pergolesi-Kreisler), (b) "Slavonic Dance" (Dvorak).

9.28: Baritone solo and quartet—Mr. Ray Kemp and Etude Quartet, "Old Black Joe" (Foster).

9.33: Violin solo—Miss Ava Symons, "Canto Amoroso" (Sammartini-Elman).

9.38: Vocal duet—Miss Rita Arnold and Mr. Ray Kemp, "The Voyagers" (Sanderson).

9.43: Pianoforte solo—Miss Gladys Turner, "Interlude" (Chaminade).

9.50: Soprano solo—Miss Gretta Stark, "All Round My Hat" (Old Irish).

9.55: Vocal quartet—Etude Quartet, "Under the Moon" (arrd. Len Barnes). God Save the King.

3YA CHRISTCHURCH (306 METRES)—MONDAY, MARCH 26.

3.0 p.m.: Afternoon concert session—Selected studio items.

4.30: Close down.

6.0: Children's session—Uncle Jack and Aunt Pat—Bedtime stories, songs and birthday greetings.

7.15: News and reports.

7.30: Talk on "Books" by Mr. E. J. Bell.

8.0: Chimes.

Concert by Band of 1st Canterbury Regiment Infantry, under the conductorship of Lieut. C. H. Hoskin, assisted by 3YA artists.

Male Voice Quartet—Beckenham Male Quartet, "Old Black Joe" (Foster).

March—Band, "Brigade of Guards" (Hawkins).

Male Voice Quartet—Beckenham Male Quartet, "Stars of the Summer Night" (Hatton).

Selection—Band, "Boccaccio" (Von Suppe).

Baritone solo—Mr. K. G. Archer, "And Old English Love Song" (Allitsen).

March—Band, "Namur" (Richards).

Musical monologue—Miss Winifred Smith, L.T.C.L., "Jones Comes Home Late" (Hastings-Jordan).

Male Voice Quartet—Beckenham's Male Quartet, "Holy Night, Peaceful Night" (Druber).

Selection—Band, "Heatherland" (Douglas).

Male Voice Quartet—Beckenham Quartet, "There Was an Old Woman" (Harris).

Weather forecast.

Male Voice Trio—Members of Beckenham Quartet, "Maiden Fair, O Deign to Tell" (Haydn).

Intermezzo—Band, "Secrets" (Ancliffe).

Tenor solo—Mr. E. R. Pitman, "A Chip of the Old Block" (Squire).

Waltz—Band, "Valse Militaire" (Rimmer).

Male Voice Quartet—Beckenham Male Quartet, "Love's Own Sweet Song" (Bingham).

March—Band, "Jolly Jaunts" (Curson).

Humorous recitation—Miss Winifred Smith, "At the Photographer's" (from "Behind the Beyond") (Leacock).

Selection—Band, "Echoes of Mendelssohn" (Greenwood).

Tenor and baritone duet—Messrs. W. H. Odell and F. S. Jackson, "Tenor and Baritone" (Wilson).

Male Voice Quartet—Beckenham Male Quartet, "An Alliterative Poem" (Hall).

March—Band, "Steadfast and True" (Teike).

Male Voice Quartet—Beckenham Male Quartet, (a) "Topical Chorus" (MS.), (b) "Good-night, Ladies" (Hall).

Finale—Band.

God Save the King.

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

SILENT DAY.

Tuesday, March 27th

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

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

3.30: Talk on "Electric Cooking" by a representative of Messrs. Turnbull and Jones.

4.0: Literary selections by the announcer.

4.30: Close down.

6.0: Children's hour—Uncle George.

7.15: News and reports.

8.0: Chimes.

8.1: Relay of orchestral overture from Majestic Theatre Orchestra under the conductorship of Mr. J. Whiteford-Waugh, conductor.

8.10: Mezzo-soprano solo—Miss Marjorie Fair, "Sleep and the Roses" (Tate).

8.15: Baritone solo—Mr. Walter Brough, "Friend" (Davies).

8.18: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Andante and Scherzo" (Recke).



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Week - All Stations - to Apl. 1

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8.28: Contralto solo—Madame Irene Ainsley, "Knowest Thou the Land" ("Mignon") (Thomas).
8.33: Tenor solo—Mr. Arthur Ripley, "Entreaty" (Wilson).
8.37: Relay of musical interlude from Majestic Theatre.
8.43: Soprano solos—Miss Nancy Hanna, (a) "The Prayer Perfect" (Spenson), (b) "A Memory" (Thompson).
8.50: Cello solos—Miss Lalla Hemus, "Elegie" (Faure).
8.55: Relay of vocal interlude from Majestic Theatre.
9.0: Weather forecast.
9.2: Talk on "Disarmament" by Mr. B. Martin.
9.14: Contralto solo—Madame Irene Ainsley, "Here in These Quiet Hills" (Kahn).
9.18: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Tannhauser" selection (Wagner).
9.28: A studio presentation of Act 2 of "Madame Butterfly" (Puccini), produced under the direction of Madame Irene Ainsley.

CAST.

Madame Butterfly Miss Nancy Hanna.
Susuki Miss Marjorie Fair
Pinkerton Mr. Arthur Ripley
Sharpless Mr. Walter Brough
ACT 2: We find Pinkerton has been recalled home. Three long years have passed, and the Butterfly waits for the return of her sailor lover—in her eyes, her husband. A baby has been born, affectionately called "Little Trouble." Then comes a day when Pinkerton's ship enters the harbour. The light-hearted American sailor has, however, married a girl at home, and is bringing the bride on his ship. Hearing that it is Pinkerton's ship, and knowing nothing of his legal marriage in America, Butterfly decorates the home with flowers, and joyfully awaits her lover's return.
"Oh, Kindly Heavens!" Butterfly and Pinkerton
"Prayer to the Gods of Japan" Suski
"He Will Return" Butterfly and Suski
"One Fine Day" Butterfly
"His Letter" Butterfly and Sharpless
"Shake the Cherry Tree" Butterfly and Suski
"Humming Chorus" (finale) Chorus
10.0: God Save the King.

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

3 p.m.: Chimes of the G.P.O. clock.
3.1: Selected gramophone items.
3.30: Lecturette on "Electric Cooking" by Mrs. Sinclair, of Messrs. S. Brown Ltd.
3.45: Selected gramophone items.
5.0: Close down.
6.0: Children's session—Uncle Jasper, assisted by cousins from Marsden School. Choruses, part songs, sketches, pianoforte solos and stories.
7.0: News session, market reports and sports results.
7.30: Lecturette.
7.40: Lecturette by a representative of the Agricultural Department, "For the Man on the Land."
8.0: Chimes of the G.P.O. clock, Wellington.
8.1: Overture—"The Great Little Army" (Alford).
8.5: Vocal quartet—Orpheus Quartet, "We've Flowers for You" (Brahe).
8.10: Italian mandolin—Mr. Lad Haywood, (a) "Diane" (Rapee and Pollock), (b) "My Blue Heaven" (Donaldson).
8.17: Soprano solo—Mrs. Alice Harris, "The King of Thule" (Gounod).
8.22: Instrumental trio—Symons-Ellwood-Short Trio, "Third and Fourth Movements Trio in D Minor" (Schumann).
8.32: Baritone solo—Mr. Len Barnes, "Toreador Song" (Bizet).
8.37: Cello solo—Mr. George Ellwood, "Traumerei" (Schumann).
8.42: Contralto solo and quartet—Miss Lily Mackie and Orpheus Quartet, "O Peaceful England" (German).
8.47: Recitation—Miss Effie Brice, "Marguerite" (Whittier).
8.52: Vocal duet—Mrs. Alice Harris and Mr. Len Barnes, "A.B.C." (Parry).
8.57: Saxophone solo—Mr. A. H. Wright, "Mio Fernando," from "La Favourita" (Donizetti).
9.2: Tenor solo—Mr. Arthur Coe, "Who is Sylvia?" (Schubert).
9.7: Weather forecast.
9.8: Vocal quartet—Orpheus Quartet, "The Torpedo and the Whale" (Audran).
9.13: Italian mandolin solos—Mr. Lad Haywood, (a) "Yesterday" (Wilhite), (b) "A Perfect Day" (Jacobs-Bond).
9.20: Contralto solo—Miss Lily Mackie, "A Song at Sunset" (Sparrow).
9.25: Instrumental trios—Studio Trio, (a) "Serenade" (Schubert), (b) "Moment Musical" (Schubert).
9.35: Recitation—Miss Effie Brice, "Rosie's Relations" (Roland).
9.40: Cello solo—Mr. George Ellwood, "Le Cygne" (Saint-Saens).
9.45: Vocal duet—Miss Lily Mackie and Mr. Arthur Coe, "Home to Our Mountains" (Verdi).
9.50: Saxophone solo—Mr. A. H. Wright, "Indian Dawn" (Zamecnik).
9.55: Baritone solo and quartet—Mr. Len Barnes and Orpheus Quartet, "Carry Me Back to Old Virginny" (Bland).

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

SILENT DAY.

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

3 p.m.: Town Hall chimes.
3.1: His Master's Voice Recital.
3.30: Social notes and news.
3.40: Studio music.
4.0: Address on the domestic uses of electricity, by Mr. G. J. Butcher, of Turnbull and Jones Ltd.
4.15: His Master's Voice Recital.
4.30: Close down.
6.0: Children's hour—Big Brother Bill, and a programme of part songs and glees to be provided by the pupils of the Macandrew Road School. Letters, birthdays, and bedtime stories.
7.15: News session.
7.30: Address on Tourist Resorts, by Mr. R. W. Marshall, manager of the Dunedin Tourist Office.
8.0: Town Hall chimes.
Concert by the St. Kilda Band, under the conductorship of Mr. James Dixon, and items by assisting artists.
8.1: March—St. Kilda Band, "Red Gauntlet" (Rimmer).
8.6: Baritone solos—Mr. Reg. Richards, (a) "For the Green" (Lohr), (b) "Time Was When I Roamed the Mountains" (Lohr).
8.13: Humorous monologue—Miss Anita Winkel, "Having It Out" (Anon.).
8.18: Waltz—St. Kilda Band, "The Druid's Prayer" (Davson).
8.27: Bass solo—Mr. J. Ferguson, "The Toilers" (Piccolomini).
8.30: Recitation—Mr. J. B. McConnell, Selection from "The Sentimental Bloke" (Dennis).
8.35: Selection—St. Kilda Band, "Maritana" (Wallace).
8.50: Light vocal solo—Mr. Chas. Rowand, (a) "I Lost the Best Pal I Ever Had" (Dareswski), (b) "You are the Image of Mother" (Anon.).

9.3: Air Varie—St. Kilda Band, "Simeon" (Rimmer).
9.13: Baritone solo—Mr. Reg. Richards, "Ave Maria" (Luzzi).
9.17: Recitations—Miss Anita Winkel, (a) "The True Story of George Washington" (Wood), (b) "After the Marriage" (Faure).
9.24: Cornet solo—Mr. George Christie, with band accompaniment, "In a Monastery Garden" (Ketelby).
9.30: Intermezzo—St. Kilda Band, "The Soldiers' Chorus," from "Faust" (Gounod).
9.36: Bass solos—Mr. J. Ferguson, (a) "Nancy Lee" (Adams), (b) "Youth" (Allitsen).
9.42: Recitations—Mr. J. B. McConnell, selections from "The Sentimental Bloke" (Dennis).
9.49: Fox-trots—St. Kilda Band, (a) "If You See Sally" (Donaldson), (b) "Collette" (Baer).
9.55: Light vocal solo—Mr. Charles Rowand, "Shine On, Harvest Moon" (Bayer).
9.59: March—St. Kilda Band, "Farewell, My Comrades" (Rimmer).
10.3: God Save the King.

Wednesday, March 28th

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

3 p.m.: Afternoon session—Selected studio items.
4.0: Literary selection by the announcer.
4.30: Close down.
6.0: Children's hour—Uncle Tom.
7.15: News and reports.
7.45: Talk on "Physical Culture," by Mr. Norman Kerr.
8.0: Chimes.
8.1: Relay of Municipal Organ Recital from Auckland Town Hall—Organist Mr. Maughan Barnett, assisted by the Hazell-Sutherland Vocal Duo and Miss Lynda Murphy, soubrette, who will render the following items from the studio:—
Contralto solos—Miss Phyllis Hazell, (a) "Abide With Me" (Liddle), (b) "Little Brown Cottage" (Dickson).
Soubrette—Miss Lynda Murphy, (a) "That's a Good Girl" (Anon.), (b) "Blushing Bride" (Anon.).
Baritone solos—Mr. Frank Sutherland, (a) "The Prologue" (from "Pagliacci") (Leoncavallo), (b) "The Shade of the Palms" (from "Floradora") (Stuart).
Vocal duets—Hazell-Sutherland Duo, (a) "Just A'Wearying for You" (Jacobs-Bond), (b) "A Paradise for Two" (from "The Maid of the Mountains" (Tate).
10.0: God Save the King.

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

SILENT DAY.

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

3.0: Afternoon concert session—Selected studio items.
4.0: Talk on "Care of the Mouth and Teeth" by a member of the North Canterbury Dental Association.
4.30: Close down.
6.0: Children's session—Uncle Peter and Mother Hubbard—Songs, stories, jokes, and birthday greetings.
7.15: Addington stock market reports.
7.30: News session.
8.0: Chimes.
Mr. A. G. Thompson, B.A., and his "Dulcet Quartet" will present a vocal miscellaneous concert, assisted by Christchurch Broadcasting Trio, Mr. A. H. Todd (elocutionist) and Miss Aileen Warren (accompanist).
Baritone solo—Mr. A. G. Thompson, "The Fortune Hunter" (Sanderson).
Soprano solo—Miss Mary Shaw, A.R.C.M., "Sing, Joyous Bird" (Phillips).
Cello solo—Mr. Harold Beck, "After a Dream" (Faure).
Contralto solo—Miss Nellie Lowe, "Farewell to Summer" (Johnson).
Instrumental trio—Christchurch Broadcasting Trio, "Second Movement from Trio in A Minor" (Lalo).
Tenor solos—Mr. T. G. Rogers, (a) "Secret Tears" (St. Quentin), (b) "Silver Moon" (Adams).
Recitation—Mr. A. H. Todd, "Wrong Numbers" (Searson).
Contralto and baritone duet—Miss Nellie Lowe and Mr. A. G. Thompson, "Love is Meant to Make Us Glad" (German).
Weather forecast and late news.
Baritone solos—Mr. A. G. Thompson (a) "Onaway, Awake Beloved" (Cowan), (b) "Passing By" (Purcell).
Mixed vocal quartet—Dulcet Quartet, "Moonlight" (Faning).
Soprano solos—Miss Mary Shaw, (a) "An Erisky Love Lit" (Fraser), (b) "Who is Sylvia?" (Schubert).
Cello solo—Mr. Harold Beck, "Serenade" (Popper).
Tenor solo—Mr. T. G. Rogers, "Dear Land of Home" (Valmore).
Instrumental trios—Christchurch Broadcasting Trio, (a) "Liesbeslied" (Cadman), (b) "Poupee Dansant" (Poldini).
Contralto solos—Miss Nellie Lowe, (a) "Your Heart Will Call Me Home" (Teschemacher), (b) "Homeland" (Drummond).
Recitation—Mr. A. H. Todd, "Arf a Cigar" (Jordan).
Vocal mixed quartet—Dulcet Quartet, "At Eventide" (Raff).
God Save the King.

4YA DUNEDIN (463 METRES)—WEDNESDAY, MARCH 28.

SILENT DAY.

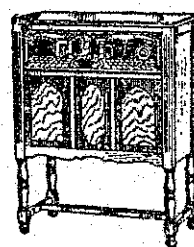
Thursday, March 29th

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

3 p.m.: Afternoon session—Selected studio items.
4.0: Literary selection by the announcer.
4.30: Close down.
6.0: Children's hour, conducted by Peter Pan.
7.15: News, reports and book review.
8.0: Chimes.
8.1: Orchestral overture and selection, (a) "Rosamunde" (Parts 1 and 2) (Schubert), (b) "Chu Chin Chow" (Parts 1 and 2) (Norton).
8.16: Contralto solos—Miss Mina Caldwell, (a) "Pour Quoi" (Chaminade), (b) "When the Swallows Homeward Fly" (White).
8.21: Vocal trios—The Snappy Three, (a) "Muddy Waters" (MS.), (b) "Mama's Gone Young" (MS.).
8.29: Instrumental trios—Bosworth-Hemus-Towsey Trio, (a) "Trio in C Minor" (Max), (b) "Presto" (Bruch).
8.39: Soprano solos—Miss Lola Solomon, (a) "Twilight Song" (Palmgren), (b) "Tears That Children Shed" (Arundale).
8.47: Talk on "Great Authors," by Mr. Culford Bell.
9.0: Evening forecast.
9.2: Orchestral overture and selection, (a) "Die Mustersinger" (Wagner), (b) "Lilac Time" (arranged Clutman).
9.17: Contralto solos—Miss Mina Caldwell, (a) Out of My Soul's Great Sadness" (Franz), (b) "On the Sea" (Franz).
9.24: Baritone solos—Mr. Barry Coney, (a) "The Handyman" (Fisher), (b) "The Old Countree" (Pinsuti).
9.32: Pianoforte solo—Mr. Cyril Towsey, "Wanderer" (Schubert-Liszt).
9.37: Vocal trios—The Snappy Three, (a) "Just a Melody" (MS.), (b) "Popular Duet," (c) "High, High Up in the Hills" (MS.).
9.46: Soprano solo—Miss L. Solomon, "My Hero," from "The Chocolate Soldier" (Stanislaus).
9.50: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Chopinana" (arrgd. Roberts).
10.0: Vocal duet—Mr. B. Coney and Miss M. Caldwell, "Dear Love of Mine" (Goring-Thomas).
10.5: God Save the King.

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

3 p.m.: Chimes of the G.P.O. clock.
3.1: Selected studio items.



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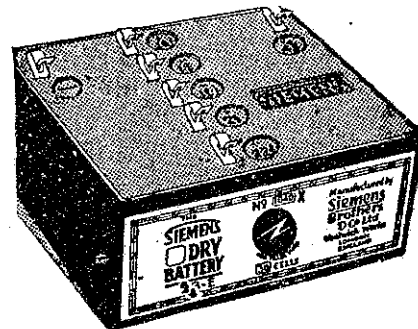
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Relatively few people in Australia and New Zealand have heard a carillon, although some who listen to the radio stations have heard broadcasts of some of the world's finest carillons, notably those in Holland and Canada. The University of Sydney will soon be provided with a carillon, installed as a memorial to the institution's war heroes, and the Sydney broadcasting station, 2FC, is planning to broadcast the instrument. The carillon on a fine night is likely to be heard for a distance of a mile or two from its tower at the university, but with the aid of radio it will be heard throughout New South Wales, in most parts of Australia, and all over New Zealand. A carillon will also shortly be installed at Bathurst, N.S.W., and station 2IC will probably broadcast it also.

Long-wave daylight radio signals from distant stations and from those only 200 or 300 miles away were stronger in 1927, when the eleven-year sun-spot cycle was near its maximum, than in 1928, when it was at its minimum, according to conclusions of Dr. L. W. Austin and Miss I. J. Wymore, of the United States Government Bureau of Standards, who advanced this idea recently as "a reasonable certainty." A commercial radio expert, G. W. Pickard, has shown, on the other hand, that at night in the broadcasting range signals grow weaker when the number of sun spots increases, the Department of Commerce further declared, and added: "Hence it appears that the effect of solar activity on signals is reversed when day gives place to night." This corresponds, it was stated, to the conclusions of the engineers of the Bell laboratories, that magnetic storms, which are known to be connected with sun spots, weaken medium and long-wave signals at night, and slightly strengthen them in the daytime.



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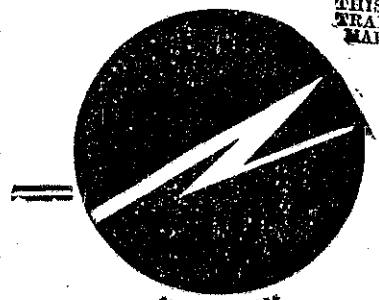
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- 5.0: Close down.
 6.0: Children's session—Uncle Sandy and the Cheerio Radio Club. Choruses, playlets, songs, duets, recitations, and instrumental items.
 7.0: News session, market reports and sports results.
 7.40: Lecture by Mr. Black, of the Government Tourist Department, "New Zealand's Tourist, Holiday and Sporting Attractions."
 8.0: Chimes of the G.P.O. clock, Wellington.
 8.1: March—Wellington Municipal Tramways Band, "Brilliant" (Rimmer).
 8.6: Vocal quartet—Clarion Quartet, "Die Lorelei" (Slicher).
 8.11: Overture—Tramways Band, "Magic Flute" (Mozart).
 8.23: Tenor solo—Mr. Will Hancock, "Country Folk" (Brahe).
 8.28: Selection—Tramways Band, "Il Trovatore" (Verdi).
 8.40: Bass solo—Mr. James Cooke, "A Jolly Old Cavalier" (Dix).
 8.45: Characteristic selection—Tramways Band, "In a Persian Market" (Ketelby).
 8.51: Vocal duet—Messrs. Frank Skinner and Ray Kemp, "Fickle Hearted Mimi" (Puccini).
 8.56: Mezzo-soprano solo—Miss Ailsa Nicol, "Ernani Involami" (Verdi).
 9.1: Weather forecast.
 9.2: Fox-trot—Tramways Band, "Idolising" (West).
 9.7: Tenor solo—Mr. Frank Skinner, "My Mary, Sweet and Brown" (Kilner).
 9.12: Humoresque Waltz—Tramways Band, "When the Birds Began to Sing" (Joyce).
 9.19: Baritone solo—Mr. Ray Kemp, "King Charles" (White).
 9.24: Selection—Tramways Band, "Lucrezia Borgia" (Donizetti).
 9.36: Mezzo-soprano solos—Miss Ailsa Nicol, (a) "Snowflakes" (Montague Phillips); (b) "Coppelia Waltz Song" (Delibes).
 9.41: Tenor solo—Mr. Will Hancock, "Where the River Shannon Flows" (Smith).
 9.45: Waltz—Wellington Municipal Tramways Band, "Temptation" (Ancliffe).
 9.51: Vocal quartet—Clarion Quartet, "Fifty Million Frenchmen Can't Be Wrong" (Fisher, arr. Len Barnes).
 9.55: March—Tramways Band, "Royal Trumpeters" (Brown).
 God Save the King.

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

- 3 p.m.: Afternoon concert session—Selected studio items.
 4.30: Close down.
 6.0: Children's session—Aunt Pat and little cousins will entertain the children. Birthday greetings.
 7.15: News session.
 7.30: Talk by Mr. H. W. Beck on "How to Feed Poultry For Any Purpose With Profit" (M.S.).
 8.0: Chimes.
 Madame Gower-Burns's Grand Opera Quartet present a concert of Negro Spirituals and Plantation songs, assisted by the Christchurch Broadcasting Trio and Miss Mavis Ritchie (elocutionist).
 Baritone solo and vocal quartet—Mr. B. Rennell and Grand Opera Quartet, "Hard Times Come Again No More" (Foster).
 Soprano solos—Madame Gower-Burns, "Big Lady Moon" (Taylor).
 Instrumental Trio—Christchurch Broadcasting Trio, "Allegro Vivace," from D Major Trio (Beethoven).
 Baritone solo—Mr. Bernard Rennell, "Banjo Song" (Homer).
 Pianoforte solo—Miss Aileen Warren, "Nocturne" (MacFadyen).
 Tenor solo and vocal quartet—Mr. Harold Prescott and Grand Opera Quartet, "Rosalie the Prairie Flower" (Wenzel).
 Recitation—Miss Mavis Ritchie, "Gathering Peaches" (B. Baughan, a Christchurch poetess).
 Contralto solo—Mrs. Ann Harper, "Croodlin Doo" (Needham).
 Tenor solos—Mr. Harold Prescott, (a) "Go Down, Moses" (Burleigh); (b) "Tis Me, O Lord" (Burleigh).
 Weather forecast.
 Baritone solo and vocal quartet—Mr. Bernard Rennell and Grand Opera Quartet, "Toll the Bell" (MS.).
 Soprano solos—Madame Gower-Burns, (a) "Mighty Like a Rose" (Nevin); (b) "Weeping Mary" (Negro Spiritual) (Burleigh).
 Instrumental trios—Christchurch Broadcasting Trio, (a) "Salve Dimorah," from "Faust" (Gounod); (b) "Hungarian March" (Berliot).
 Contralto solo—Mrs. Ann Harper, (a) "John Gone Down on de Island" (Burleigh); (b) "Swing Low" (Fischer).
 Pianoforte solo—Miss Aileen Warren, "La Lisonfera" (The Flatterer) (Chaminade).
 Recitation—Miss Mavis Ritchie, "Her First Pudding" (MS.).
 Tenor solo and vocal quartet—Mr. Harold Prescott and Grand Opera Quartet, "Swanee River" (MS.).
 God Save the King.

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

- 7 p.m.: Town Hall chimes.
 7.1: Request gramophone recital.
 7.40: News session.
 8.0: Town Hall chimes.
 8.1: Relay of orchestral selections from Octagon Theatre Orchestra.
 8.12: Soprano solos—Miss Rita Holmes, (a) "My Hero," from "The Chocolate Soldier" (Strauss); (b) "Love Nest," from "Mary" (Hirsch).
 8.18: Cello solo—Mr. Malcolm Robilliard, "Ave Maria" (Gounod).
 8.23: Baritone solo—Mr. F. M. Tuohy, "Love and Wine," from "Gipsy Love" (Lehar).
 8.27: Pianoforte solos—Miss Eileen Williams, (a) "Pastorale and Capriccio" (Scarlatti); (b) "Liebestraume No. 3" (Liszt).
 8.35: Contralto solos—Miss Winnie McPeak, (a) "Angus Macdonald" (Roedel); (b) "The Wind" (Spross).
 8.40: Relay of orchestral selections from Octagon Theatre.
 8.50: Bass solo—Mr. E. G. Bond, "Father O'Flynn" (Stanford).
 8.55: Address by Pastor W. D. More.
 9.10: Soprano solo—Miss Rita Holmes, "Some Day Waiting Will End," from "Kissing Time" (Carlyle).
 9.13: Cello solos—Mr. Malcolm Robilliard, (a) "Le Baiser" (Thomas); (b) "Ave Verum" (Mozart).
 9.22: Baritone solos—Mr. F. M. Tuohy, (a) "Cobbler's Song," from "Chu Chin Chow"; (b) "A Bachelor Gay," from "The Maid of the Mountains" (Tate).
 9.30: Pianoforte solo—Miss E. Williams, "Sonata to a Doll" (Debussy).
 9.35: Contralto solo—Miss Winnie McPeak, "I Did Not Know" (Trotter).
 9.38: Relay of orchestral selections from Octagon Theatre.

The chief drawback, apart from atmospheric phenomena, to world broadcasting is the differences in time. Even this difficulty may now be overcome, however, by a recent invention. This is nothing more or less than the actual electric recording of the sound waves of programmes on coils of metal tape. The recording, therefore, of English, American, and foreign programmes in this manner, and their re-broadcasting at times suitable to Australia, New Zealand, Canada, and the rest of the colonies, would mean perfect reception and exchange of inter-colonial and world programmes at all and any times.

Atmospheric conditions for radio reception on the Atlantic Ocean are just about perfect in midwinter, according to K. L. Allardice Arnott, managing director of the Freed-Hisemann Radio, Ltd., of London, who arrived at New York from London on the American Banker recently. Mr. Arnott said that this was his sixth trip across the Atlantic, and that on each preceding journey he had experimented with reception, but that the results were in no way comparable with those during the last crossing. "We left London on December 30," Mr. Arnott said. "During the entire voyage we were never out of touch with land day or night. The Daventry station, 5XX, came in strong, until we were off the Banks of Newfoundland. We heard the New Year's service from the York Cathedral and the ringing of the chimes." Mr. Arnott used an American-made six-valve set during the experiment, and ranged up and down the entire broadcasting band between 200 and 550 metres without any appreciable difference in reception.

The United States Navy Department has reported that high power valve transmitters cost more than are transmitters of the same power, and cites the case of the transmitter installed at San Diego during the latter part of 1926. The General Electric Company, which installed the plant, had to keep two engineers at the station endeavouring to overcome defects in the apparatus for more than a year, and had to replace approximately \$2500 worth of valves during the time that the installation was under test and before the Navy Department took it over. This indicates, to some extent, the difficulties met in the construction of transmitters rating near 100,000 watts. With the arc transmitter none of this trouble is experienced, but it appears as though the efficient arcs must be scrapped as obsolete unless the interference problem is overcome.

In case at any time your "C" battery leads should accidentally have their polarity reversed you will recognize the fact by the extreme faintness of signals, or in some cases their entire absence. An exhausted "C" battery will also cause all sorts of trouble although owing to the very slight drain on this unit a "C" battery will outlast two or three sets of "B" batteries, and does not often cause trouble. Nevertheless, if your set won't go, or if it behaves in an unruly manner, do not overlook this point. Test with a voltmeter, and make certain the reading is not less than 3 volts for a 4½ volt battery. This is the extreme limit. Should it read lower throw it out and substitute a new battery.

In tracing the cause of noise in a receiving set it is advisable to commence by testing the high-tension battery ("B" battery) either by trying it on another set or by trying another battery (known to be O.K. on one's own set), or by a voltmeter. When the insulation of the telephone winding has deteriorated, as it will in high-resistance telephones used in valve circuits, loud cracking noises result. Telephones may be tested on another set or by comparison with another pair on one's own set. The grid-leak is often a source of noise. Once the trouble has been traced to this it is easily remedied.

A Melbourne writer says: "It is not too much to say that not only are we nearing perfection in broadcasting and its reception, but we stand on the threshold of an entirely new era. 1928 will see the establishment of a regular service of Empire and world broadcasting, and this will be made feasible entirely through the medium of super-power on the ultra-short waves. Hitherto we have been accustomed to regard reception of European and American stations as exceptional. Before the end of the year we shall hear broadcasting from all parts of the world as easily and regularly as we are now accustomed to hearing our own Australian stations. This is no idle forecast, but it is based on what we already know, and on what has been done by our experimenters, amateur and official, and particularly on the good work done by that now famous Dutch station, PCJJ, Bindloven, Holland, notably in the re-broadcasting of British, French, and German programmes. These have been received easily and regularly in Australia for at least six months on PCJJ's wave of 30.2 metres."

The British short-wave amateur, Mr. Gerald Marcuse, is now broadcasting regularly as follows:—Sundays: 6 a.m.—8 a.m.; 4 p.m.—5 p.m.; and 6 p.m.—8 p.m. Wednesdays and Fridays at 11 p.m.—1 a.m. (Thursday and Saturday). On Tuesdays he is giving a broadcast at 6 a.m. All the times given are Greenwich mean time. Mr. Marcuse's call is 2NM, and he over-

- 9.50: Bass solos—Mr. E. G. Bond, (a) "Glorious Devon" (German); (b) "Little Girl From Hanley Way" (Connings-Clarke).
 10.0: God Save the King.

Friday, March 30th

1YA AUCKLAND (333 METRES)—FRIDAY MARCH 30.

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the announcer.
 4.30: Close down.
 6.0: Children's hour, conducted by Nod.
 7.15: Talk on "Motoring" by Mr. George Campbell.
 8.0: Chimes.
 8.1: Relay of orchestral overture from Rialto Picture Theatre Orchestra, under the conductorship of Mr. Henry C. Engel.
 8.16: Vocal quartet—Madame Mary Towsey Quartet, "Three Fishers" (Hullah).
 8.20: Instrumental quartets—Le Pali Quartet, (a) "Rigoletto" (MS.); (b) novelty fox-trot: (c) "Hawaiian Melodies" (MS.).
 8.27: Baritone solo—Mr. John Bree, "From Oberon in Fairyland" (Slater).
 8.31: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio in D Minor, Op. 49, 2nd Movement" (Mendelssohn).
 8.40: Contralto solo—Miss Gwyneth Evans, "A Glimpse" (Clifton Boanes).
 8.47: Elocutionary—Mr. J. F. Montague, "The Wedding Day" (Anon).
 8.52: Tenor solo—Mr. Reginald Newbury, "Margarita" (Lohr).
 8.56: Violin solos—Miss Ina Bosworth, (a) "Humoresque" (Dvorak); (b) "Berenice" (Handel).
 9.1: Soprano solo—Madame Mary Towsey, "A Feast of Lanterns" (Bantock).
 9.5: Evening forecast.
 9.7: Relay of orchestral interlude from Rialto Theatre.
 9.22: Baritone solo—Mr. John Bree, "So Fair a Flower" (Lohr).
 9.26: Contralto solo—Miss G. Evans, "Still As the Night" (Bohm).
 9.30: Instrumental quartets—Le Pali Quartet, (a) "Hula Medley" (MS.); (b) "Popular Melodies" (MS.).
 9.37: Tenor solo—Mr. R. Newbury, "I Heard You Go By" (Wood).
 9.41: Comedy sketch—Mr. J. F. Montague and partner, "A Case of Guns!" (Anon).
 9.47: Soprano solo—Madame Mary Towsey, "Vorrei" (Tosti).
 9.50: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Valse Des Fleurs" (Tschai-kowsky).
 10.0: Vocal quartet—Madame Mary Towsey Quartet, "Brightly Dawns Our Wedding Day" (Sullivan).
 10.4: God Save the King.

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

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 3.30: Lecture on "Gas Cooking" by Miss Marion Christian, of the Wellington Gas Company.
 3.45: Selected gramophone items.
 5.0: Close down.
 6.0: Children's session—Uncle Ernest, assisted by cousins from the Hataitai Methodist Sunday School. Choruses, duets, songs and sketches, birthday greetings and stories.
 7.0: Chimes of the G.P.O. clock.
 7.40: Lecture on "Kennel Management," by Miss M. S. Christmas (under the auspices of S.P.C.A.).
 8.0: Chimes of the G.P.O. clock.
 8.1: Overture—"Pique Dame" (Suppe).
 8.5: Vocal quartet—Apollo Singers, "O Hush Thee, My Baby" (Sullivan).
 8.10: Hawaiian duos—Messrs. Berthold and Bent, (a) "Misereere Scene" from "Il Trovatore" (Verdi); (b) "My Blue Heaven" (Donaldson).
 8.17: Contralto solos—Miss Hilda Chudley, (a) "Bring Her Again, O Western Wind" (Ronald); (b) "Deep River" (Burleigh).
 8.24: Instrumental trio—Symons-Ellwood-Short Trio, "Finale From Trio in D Minor" (Mendelssohn).
 8.34: Baritone solo—Mr. S. E. Rodger, "Corporal's Ditty" (Squire).
 8.39: Pianoforte solo—Mr. Gordon Short, "Nocturne in F Sharp Major" (Chopin).
 8.44: Novelty—The Two Boiled Owls, "Just a Melody" (Dai Hart and Robison).
 8.51: Soprano solos—Miss Mona Goodwill, (a) "Unfolding" (Lehmann); (b) "Lovers in the Lane" (Lehmann).
 8.58: Lecture on "Imperial Affairs," by the Editor-Announcer.
 9.13: Weather forecast.
 9.14: Hawaiian duos—Messrs. Berthold and Bent, (a) "Blue Skies" (Berlin); (b) "Russian Lullaby" (Berlin).
 9.19: Vocal duet—Miss Chudley and Mr. Robins, "I Wish I Were a Tiny Bird" (Lohr).
 9.24: Instrumental trio—Studio Trio, "Spanish Dances" (Moszkowski).
 9.34: Tenor solos—Mr. E. W. Robins, (a) "Temple Bells" (Woodford Finden); (b) "Less Than the Dust" (Woodford Finden).
 9.41: Pianoforte solo—Mr. Gordon Short, "Study in A Flat" (Chopin).
 9.46: Contralto solo—Miss Hilda Chudley, "Sylvan" (Ronald).
 9.51: Humorous sketch—The Two Boiled Owls, "2 B.A.D." (original).
 9.58: Vocal quartet—Apollo Singers, "A Night of Love" (Spier).
 God Save the King.

3YA CHRISTCHURCH (306 METRES)—FRIDAY, MARCH 30.

- 3 p.m.: Afternoon concert session—Selected studio items.
 4.30: Close down.
 6.0: Children's session—Big Brother and Aunt Pat, assisted by a large party of Boy Scouts under Major Ashworth. Songs, stories and birthday greetings.
 7.15: News session.
 7.30: Talk on "Adult Education" by Mr. Geo. Manning, Dominion Secretary of the W.E.A.
 8.0: "Rhapsody Gymnaeg"—Welsh concert by Miss Frances Hamerton's Melodious Four, assisted by Christchurch Broadcasting Trio—Miss Lucy Cowan (elocutionist), and Mr. R. Ohlson (cornetist).
 - Welsh vocal mixed quartet—Melodious Four (solo and chorus), "Mae Hen Wlad fy Nhadau" (Welsh National Anthem, arr. Owain Alan).
 Soprano solo—Miss Frances Hamerton, L.A.B., "The Rising of the Lark" (Welsh, arr. Owain Alan).
 Cornet solos—Mr. R. Ohlson, Welsh airs (M.S.).
 Bass solo—Mr. T. D. Williams, "Yr Ornest" (Davies).
 Soprano and contralto duet—Miss Frances Hamerton and Miss Belle Renaut, "I Saw a Tiny Streamlet" (arr. Owain Alan).
 Instrumental trios—Christchurch Broadcasting Trio, (a) "Trio No. 6—Allegro, Andante" (Bohm); (b) "Turkish March".
 Tenor solo—Mr. Russell Sumner, "Winnie Dear" (arr. Owain Alan).
 Violin solo—Miss Irene Morris, selected.
 Contralto solo (Welsh)—Miss Belle Renaut, "Over the Stone" (arr. Owain Alan).
 Humorous recitation—Miss Lucy Cowan, "A Welsh Classic" (Ballard).
 Mixed vocal quartet—Melodious Four, "Hang Fear, Cast Away Care" (Parry).
 Weather forecast.
 Cornet solos—Mr. R. Ohlson, "Welsh Melodies" (M.S.).
 Bass solos (Welsh)—Mr. T. D. Williams, (a) "The Spade Head" (Welsh Penillion, arr. Owain Alan); (b) "Morfa Rhuddlan" (arr. Owain Alan).
 Contralto and bass duet—Miss Belle Renaut and Mr. T. D. Williams, "Old Morgau and His Wife" (arr. Owain Alan).
 Instrumental trios—Christchurch Broadcasting Trio, (a) "Idylle" (Perishou); (b) "Valse des Fleurs," from "Nutcracker Suite" (Tschai-kowsky).
 Tenor solos (Welsh)—Mr. Russell Sumner, (a) "The Gentle Bird" (arr. Owain Alan); (b) "Men of Harlech" (arr. Owain Alan).
 Violin solo—Miss Irene Morris, selected.
 Contralto solos (Welsh)—Miss Belle Renaut, (a) "The Ashgrove" (arr. Owain Alan); (b) "All Through the Night" (arr. Owain Alan).
 Dramatic recital—Miss Lucy Cowan, "A Song of the Welsh" (Prys-Jones).
 Mixed vocal quartet—Melodious Four, "Hob y Deri Dando" (arr. Owain Alan).
 God Save the King.

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

- 3 p.m.: Town Hall chimes.
 3.1: His Master's Voice recital.

NOW You can listen to the distant voices of the world!

RIGHT IN YOUR OWN HOME.

—The thrilling voice from old England.
 Quaint song and speech from Holland.
 Weird words and music from Soviet Russia.
 Poppo jazz and queer quips from America.

All these things are yours with the
**NEW SILVER-MARSHALL SHORT
 WAVE RECEIVER.**

If your dealer cannot tell you of this wonderful Receiver—
 Write us for free details.

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AUCKLAND

Programmes Continued

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- 3.15: Fashion Talk by a representative of the D.I.C.
 3.30: Afternoon tea music from the Savoy.
 3.45: Studio music.
 4.0: Music from the Savoy.
 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 Joyce at the piano. Fairy music on the guitar by Big Brother Norman, Ruth will recite again, and Ken will play his mouth-organ. Now we have a most thrilling trip on the Wonder Car to see the world's queer folk.
 7.15: News session.
 7.30: Mr. H. Greenwood, of the Athenaeum, will review the latest books.
 8.0: Town Hall chimes.
 8.1: Bass solos—Mr. J. B. Macpherson, (a) "Blow, Blow, Thou Winter Wind" (Sarjeant); (b) "Drinking Song" (Old German Air).
 8.8: Recitation—Miss Sheila Neilson, "Lorenzo's Eulogy on Music" (Shakespeare).
 8.13: Soprano solo—Miss Roma Buss, "I Love the Moon" (Rubens).
 8.17: Tenor solos—Mr. L. E. Daley, (a) "Serenade" (Mascagni); (b) "Mary."
 8.24: Pianoforte solo—Miss Aroha Allan, L.T.C.L., "Sparklets" (Miles).
 8.30: Mezzo-soprano solo—Miss Mollie Andrews, "Beyond the Dawn" (Sander-son).
 8.34: Selection.
 8.38: Bass solo—Mr. J. B. Macpherson, "The Village Blacksmith" (Weiss).
 8.42: Recitations—Miss Sheila Neilson, (a) "Crossing the Bar" (Tennyson); (b) "The Old Clock on the Stairs" (Longfellow).
 8.52: Soprano solos—Miss Roma Buss, (a) "Turn Ye to Me" (Wilson); (b) "The Dove" (Ronald).
 8.57: Tenor solo—Mr. L. E. Daley, "O Vision Entrancing" (Goring-Thomas).
 9.2: Pianoforte solos—Miss Aroha Allan, L.T.C.L., (a) "Coronach" (Barratt); (b) "The Evening Hour" (Gussner).
 9.11: Mezzo-soprano solos—Miss Mollie Andrews, (a) "Love's a Sailor" (Phil-lips); (b) "Hedge Roses" (Schubert).
 9.16: Relay of dance music from the Savoy.
 10.0: God Save the King.

Saturday, March 31st

1YA AUCKLAND (333 METRES)—SATURDAY, MARCH 31.

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the announcer.
 4.30: Close down.
 6.0: Children's session—Cinderella.
 7.15: News and sports results.
 8.0: Chimes.
 8.1: Relay of orchestral overture from Strand Picture Theatre, under the con-ductorship of Eve Bentley.
 8.16: Chorus—Lyric Quartet, "Grand Bridal Chorus," from "Tannhauser" (Wagner).
 8.21: Humour—Mr. Alan McElwain, some merry moments.
 8.26: Tenor solo—Mr. Herbert Richards, "An Old-Fashioned Town" (Squire).
 8.30: Vocal quartet—Lyric Quartet, "Night Winds Flow" (Calkin).
 8.34: Soprano solo—Miss Alma McGruer, "Break o' Day" (Sanderson).
 8.39: Vocal quartet—Lyric Quartet, "The Amorous Nigger" (M.S.).
 8.44: Vocal duet—Miss A. McGruer and Mr. A. Ripley, "Sympathy" (Marshall).
 8.48: Relay of orchestral interlude from Strand Theatre.
 8.58: Weather forecast.
 9.0: Vocal quartet—Lyric Quartet, "Reveries" (Storch).
 9.5: Bass solo—Mr. E. Thomas, "I Did Not Know" (D'Hardelot).
 9.10: Grand chorus—Lyric Quartet, "Wedding March" (Wagner).
 9.15: Relay of dance music by "The Internationals," under the conductorship of Mr. Clyde Howley, from Dixieland Cabaret.
 11.0: God Save the King.

2YA WELLINGTON (420 METRES)—SATURDAY, MARCH 31.

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 5.0: Close down.
 6.0: Children's session—Aunts Gwen and Dot.
 7.0: News session, market reports and sports results.
 8.0: Chimes of the G.P.O. clock.
 8.1: Overture—"The Great Little Army" (Alford).
 8.5: Vocal quartet—Melodie Four, "Honey I Wants Yer Now" (Coe).
 8.10: Novelty pianoforte solo—Mr. James Skedden, "Lopez Speaking" (Jentes).
 8.15: Tenor solo—Mr. S. Duncan, "I Hear You Calling Me" (Marshall).
 8.20: Instrumental Trio—Symons-Ellwood-Short Trio, "Miniature Trio" (Gurlitt).
 8.30: Vocal duet—Messrs. S. Duncan and R. S. Allwright, "In This Solemn Hour," from the opera "Force of Destiny" (Verdi).
 8.35: Bass solo—Mr. W. W. Marshall, "The Miller of Winchelsea" (Adams).
 8.40: Instrumental trios—Studio trio, (a) "Serenade" (Victor Herbert); (b) "Dancing Doll" (Poldini).
 8.50: Tenor solos—Mr. Frank Bryant, (a) "Only the River Running By" (Hopkins); (b) "Thoughts" (Fisher).
 8.56: Baritone solo—Mr. S. Allwright, "Two Songs For My Lady" (Foster).
 9.1: Weather forecast.
 9.2: Novelty pianoforte solo—Mr. James Skedden, "Red Clover" (Kortlander).
 9.7: Vocal quartet—Melodie Four, "Drifting and Dreaming" (Arrgd. Melodie Four).
 9.12: Relay of Chas. Dalton's Columbia Solo Six Dance Orchestra from the Columbia Cabaret, Kilbirnie.
 11.0: God Save the King.

3YA CHRISTCHURCH (306 METRES)—SATURDAY, MARCH 31.

- 6.0: Children's session—Uncle Sam and Aunt May, assisted by consins—songs, stories, jokes, and birthday greetings.
 7.15: News session.
 7.30: Sports results.
 8.0: Chimes.
 Vaudeville Concert.
 Soprano solo—Miss Mabel Thomas, A.T.C.L., "Prince Charming" from "The Vicar of Wakefield" (Lehmann).
 Baritone solo—Mr. E. A. Dowell, "There's a New Star in Heaven To-night" (Brennan).
 English concertina solos—Mr. E. W. Heald, (a) "I Dreamt That I Dwelt in Marble Halls" (Balfe); (b) "Then You'll Remember Me," from "The Bohemian Girl" (Balfe).
 Tenor solo—Mr. David McGill, "Thou Art Risen, My Beloved" (Taylor).
 Contralto solo—Mrs. D. W. Stallard, "Oh, That We Two Were May-ing" (Nevin).
 Instrumental trios—Christchurch Broadcasting Trio, (a) "Russian River Song" (Traditional); (b) "Tempo Di Minuetto, Op. 32" (Godard).
 Humorous Recitation—Mr. Jas. Laurenson, "The Hielan Jazz" (W. Fyffe).
 Contralto and tenor duet—Miss Mabel Thomas and Mr. David McGill, "Are You Going to Dance?" from "The Count of Luxembourg" (Lehar).
 Humorous songs at the piano—Mr. E. A. Sargent, (a) "Spring Spring, Glorious Spring" (Gill); (b) "And the World Went Very Well then" (Spurr).
 Weather forecast.
 Soprano solo—Miss Mabel Thomas, A.T.C.L., "Romance" from "Our Miss Gibbs" (Caryll and Monckton).
 Baritone solos—Mr. E. A. Dowell, (a) "Adelai" (Spurin); (b) "I'll Forget You" (Ball).
 English concertina solos—Mr. E. W. Heald, (a) "The Lost Chord" (Sul-ivan); (b) "The End of a Perfect Day" (Bond).
 Contralto solos—Mrs. D. W. Stallard, (a) "In An Old Fashioned Town" (Squire); (b) "Come! Sing the Summer In" (Bethune).
 Instrumental trios—Christchurch Broadcasting Trio, (a) "Souvenir de Schubert" (Poussard); (b) "Polonaise" (Chopin).
 Tenor solo—Mr. David McGill, "Bird's Song at Eventide" (Coates).
 Humorous recitation—Mr. Jas. Laurenson, Scottish Selection from series "Meg and Andra" (Anon).
 Soprano and tenor duet—Miss Mabel Thomas and Mr. David McGill, "Say Not Love is a Dream" from "Count of Luxembourg" (Lehar).
 Humorous songs at the piano—Mr. E. W. Sargent, (a) "Behren Bem Borem" (Kirky) (own arrangement); (b) "Two Little Irish Songs" (M.S.).

Australian school teachers and students in the country will be catered for by a special series of educational talks to be broadcast from 3LO, Melbourne. The series will begin on Thursday afternoon, February 23, and will be given from 3 till 4 o'clock. The feature was introduced last year, and proved highly interesting. The talks will cover such subjects as literature, language, travel, and music.

One stage of radio frequency ahead of a detector makes a tremendous difference in long-distance reception. The effectiveness of radio-frequency amplification is made apparent when valve detectors are used, as the sensitiveness of these devices is proportional to the square of the voltage applied to them. In other words, if the incoming signal is amplified to double its normal voltage, the strength of signal in the plate circuit of the detector valve will be four times as great as before.

An Australian radio scribe says: "The method adopted in all countries of giving a call sign to the station is one that 'just happened,' and there is no particular warrant for its use. It is questionable if it is the best one for the purpose. In Russia some of the big stations have names such as the Popoff station at Leningrad, named after Popoff, who is perhaps as much entitled to be called one of the real pioneers of radio as anybody. In America some stations, in addition to their authorised call signs, have auxiliary titles. For example, a well-known station in St. Louis announces itself as 'the Voice of St. Louis.' Maybe it would be useful for us to consider adopting some such system. It would give to the station a more intimate or 'personal' touch that would have its psychological effect on listeners. Of course, the practice could be overdone, and any innovation needs to be carefully pre-considered."

As an argument in favour of establishing relay stations in Australia, a Melbourne writer says: "Distance is the main obstacle in the way of an efficient broadcasting service for the whole of Australia. Distance and huge stretches of sparsely populated country are a barrier to the establishment of big broadcasting stations situated closely together as they are in Europe and America. The area of Australia is greater than that of Europe. The distance from Melbourne to Perth is equal to that from Greece to Portugal, whilst a line drawn from Athens to Scotland would only reach from Melbourne to the far north of Australia.

"The existing broadcasting stations in Australia are limited by Government regulations. They are established in the six capital cities, but as they are separated by many hundreds of miles, and are situated along the southern and eastern fringe of the great continent, an idea can be formed of the task of supplying an efficient service for the whole of the Commonwealth. Listeners in distant parts certainly tune in regularly to the big station—3LO, Melbourne—but naturally reception at times is marred by disturbing influences."

Everyone is talking about the remarkable reception of the Australian stations on Thursday night, February 9. From 11.30 p.m. onwards the Aussies commenced to pound in, and by 12.15 a.m. on Friday even 3LO, Adelaide, was giving us good loudspeaker volume. The writer picked up a long-distance station a few metres above 3LO, Melbourne, at 1 a.m. A child was reciting in English, and was being prompted by a woman. At the conclusion there was prolonged applause.

4QG, Brisbane, is now running a gramophone session from 10 p.m. till 10.30 p.m. once a week. The director has issued the following notice: "There are numbers of people who are owners of gramophones and other talking machines, and 4QG proposes to devote a short session once per week for a period of a month to these people. The records used will be specially selected for broadcasting purposes. The inclusion of this session is in the nature of an experiment, and listeners who are interested are particularly requested to listen to the announcement which will be made prior to the transmission. Comments and suggestions regarding the session are invited."

The British Broadcasting Company cabled to 3LO, Melbourne, under date January 30, as follows:—"Reception of 3LO on 32 metres good last night—little fading—75 per cent. intelligibility." To achieve such pronounced success that 75 per cent. of a programme of music and speech extending over two hours is intelligible, marks a distinct advance in world broadcasting. A Press telegram received by the Australian daily papers stated that Gerald Marcuse, the celebrated English experimenter, at the conclusion of 3LO's programme on January 30 said enthusiastically: "It was easily the most wonderful short-wave transmission ever heard from Australia. The programme was audible distinctly throughout." Mr. Marcuse for most of the time was able to employ a loudspeaker. It was so distinct that the announcer could be heard taking his breath during the reading of the news.

A membership increase of 55 per cent. is shown in the annual report of the U.S.A. Institute of Engineers. The organisation, founded in 1912 for the benefit of the radio engineer and his co-workers, has increased in size, until it has 4852 persons on its rolls. Included are radio authorities in all quarters of the world.

Dance music.
 God Save the King.

4YA DUNEDIN (463 METRES)—SATURDAY, MARCH 31.

- 3 p.m.: Resume at intervals of test match—New Zealand v. Australia.
 7.15: News session and sporting results.
 7.30: Address on "Amateur Photography" by a member of the Dunedin Camera Club.
 8.0: Town Hall chimes.
 8.1: Relay of orchestral selections from Empire Theatre.
 8.12: Tenor solos—Mr. R. A. Mitchell, (a) "Wait" (Sanderson); (b) "Maire My Girl" (Aitken).
 8.19: Cornet solo—Mr. George Christie, "Flower Song" from "Faust" (Gounod).
 8.24: Contralto solo—Miss Irene Hornblow, L.R.A.M., "O Lovely Night" (Ronald).
 8.28: Flute solos—Mr. J. Stewart, (a) "Standchen" (Terschak); (b) "La Cerrido" (Briccialdi).
 8.38: Baritone solos—Mr. Arthur Lungley, (a) "Myself When Young" (Ash-leigh); (b) "Strange Is It Not" (Ashleigh).
 8.43: Relay of orchestral selections from Empire Theatre.
 8.53: Soprano solo—Miss Florence Sumner, "Jack's the Boy" from "The Geisha" (Monckton).
 8.58: Violin solo—Mr. A. R. Watson, "Serenade" (Gounod).
 9.3: Weather report and forecast.
 9.6: Tenor solo—Mr. R. A. Mitchell, "Macushla" (Macdermott).
 9.9: Cornet solos—Mr. George Christie, (a) "Il Mio Tesoro" (Mozart); (b) "Songs Without Words" (Mendelssohn).
 9.17: Contralto solos—Miss Irene Hornblow, (a) "I Had a Dove" (Ronald); (b) "A Love Song" (McAlpin).
 9.22: Flute solo—Mr. J. Stewart, "Les Soupirs 2nd Nocturne" (Kalkbrenner).
 9.28: Baritone solos—Mr. Arthur Lungley, (a) "The Heart's Desire" (Ash-leigh); (b) "The Master Knot" (Ashleigh).
 9.33: Violin solos—Mr. A. R. Watson, (a) "Romanze" (Vieuxtemps); (b) "Kleinlander" (Bohm).
 9.40: Soprano solos—Miss Florence Sumner, Two songs from "The Country Girl," (a) "Coo"; (b) "Under the Deodar" (Rubens).
 9.48: Relay of orchestral selections from the Empire Theatre.
 10.0: God Save the King.

Sunday, April 1st

1YA AUCKLAND (333 METRES)—SUNDAY, APRIL 1.

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the announcer.
 4.30: Close down.
 6.0: Children's Hour—Uncle Leo.
 6.55: Relay of church service from the Auckland Unitarian Church: Preacher—Rev. Albert Thornhill.
 8.30: Relay of Municipal Band Concert from Auckland Town Hall, under the conductorship of Mr. Christopher Smith.
 9.30: Close down.

2YA WELLINGTON (420 METRES)—SUNDAY, APRIL 1.

- 6 p.m.: Children's service conducted by Uncle Ernest.
 6.55: Relay of Palm Sunday Service from the Taranaki Street Methodist Church. Preacher—Rev. Clarence Eaton. Organist and choir-master—Mr. H. Temple White.
 At the conclusion of the service, the Sacred Cantata, "The Darkest Hour" will be rendered by the choir, under the conductorship of Mr. H. Temple White. Soloists: Narrator (soprano), Miss Nina Hopkins; Pilate (tenor), Mr. Roy Hill; Jesus (baritone), Mr. Roy Del-low; High Priest (bass), Mr. C. W. Svenson.
 9.0: (Approx.)—Studio concert.
 Vocal trio—Wellington Ladies' Trio, "Swing Low, Sweet Chariot" (arr. Burleigh).
 Soprano solo—Miss Nora Gray, "Lead Kindly Light" (Liddle).
 String Quartets—Symons-Ellwood-String Quartette, (a) "Gavotte" (Bach); (b) "Romance" (Tschaiakowsky).
 Mezzo-contralto solo—Mrs. P. J. Townley, "Alike at Morn" (Beethoven).
 Vocal duet—Misses Mollie Fenton and Nora Gray, "Sainted Mother" from "Maritana" (Wallace).
 String quartette—Symons-Ellwood String Quartet, "Allegro from E Flat, Quartet" (Schubert).
 Contralto solo—Miss Mollie Fenton, "Alleluiah" (arr. O'Connor Morris).
 Vocal trio—Wellington Ladies' Trio, "Night Hymn at Sea" (Thompson).
 Violin solo with string accompaniment—Miss Ava Symons, "Hungarian Dance" (Brahms).
 Vocal duet—Misses Mollie Fenton and Nora Gray, "All Alone" (Dvorak).
 Vocal trio—Wellington Ladies' Trio, "Skylark's Song" (Mendelssohn).

3YA CHRISTCHURCH (306 METRES)—SUNDAY, APRIL 1.

- 5.45 p.m. Children's song service, conducted by Uncle Sam, assisted by members of the Congregational Sunday School, Tennyson Street.
 6.30: Relay of evening service from Knox Presbyterian Church, Bealey Avenue. Preacher, Rev. T. W. Armour; organist, Mr. W. Billington. Stainer's "Crucifixion," with augmented choir. Soloists, Mr. S. Wilkinson (tenor), Mr. J. Filer (baritone).
 The following concert programme will be given from 3YA studio after the service:—
 7.45: Mezzo-contralto solos, Mrs. Percy Jowett (a) "Deep River" (Negro spiritual), (arrgd. Fisher); (b) "Gwin to Lay Down My Life for My Lawd" (Negro spiritual), (Thomas).
 7.52: Tenor solo, Mr. Thorpe Cherry, "Lola," from "Cavalleria Rusticana" (Mascagni).
 7.56: Soprano solos, Miss Linda Mills, (a) "Nevermore" (Mattei); (b) "The Swallows" (Cowan).
 8.4: Cornet solo, Mr. Percy W. Reeves, "The Rosary" (Nevin).
 8.9: Baritone solo, Mr. F. C. Penfold, "The Blind Ploughman" (Clarke).
 8.13: Clarinet solo, Mr. M. E. Withers, "Serenade" and "Ave Maria" (Schubert).
 8.19: Tenor solo, Mr. Thorpe Cherry, "On Wings of Song" (Mendelssohn).
 8.23: Mezzo-contralto solos, Mrs. Percy Jowett, (a) "Such a Li'l Fellow" (Dichmont); (b) "On the Way to Kew" (Mallinson); (c) "When Daisies Pied" (Arne).
 8.32: Cornet solo, Mr. Percy W. Reeves, "The Holy City" (Adams).
 8.36: Soprano solo, Miss Linda Mills, "A Farewell" (Liddle).
 8.40: Clarinet solo, Mr. M. E. Withers, "Une Reve" (Muller).
 8.48: Baritone solos—Mr. F. C. Penfold, (a) "Soul of Mine" (Chappell); (b) "O Flower Divine" (Wood).
 9.0: God Save the King.

4YA DUNEDIN (463 METRES)—SUNDAY, APRIL 1

- 5.45 p.m. Children's session.
 6.30: Relay of service from Hanover Street Baptist Church. Preacher, Rev. E. S. Tuckwell. Choirmaster, Mr. H. P. Desmoulines.
 8.15: Studio concert.
 9.15: Close down.

A radio loudspeaker capable of broad-casting sound up to 1½ miles, and yet retain the musical quality of the tone rendered, was recently demonstrated at the Royal Institute of Technology in Stockholm. The speaker can be mounted on a truck and transported around to be used at fairs, mass meetings, etc. The novelty is called the "Riesens-Blatthaler."

The drum is the most difficult instrument to reproduce over the micro-telephone.

Excessive voltage or defective insulation will cause condensers to break down.

Germany is said to be the most progressive European nation in the advancement of radio. There is a chain of powerful stations operating in the ten or more leading cities.

Canada has seventy-five broadcasting stations.

There are 1,252,126 farms in the United States equipped with receiving sets.

Upwards of 150 radio stations in the United States broadcast daily weather reports.

Ten o'clock curfew for radio broadcasting is the newest plan in Italy in an effort to stamp out imported music.

B Battery Eliminators for Small Sets

First Instalment of Simplified Construction

By "Megohm"

THE purpose of this article is to describe two different methods of constructing a B battery eliminator, suitable for small sets of two and three valves, and possibly four, if the demand for current is not too great. The chief idea in an outfit of this kind is to cut down expense as much as possible, without impairing efficiency. An eliminator of this description will cost about half the cost of constructing the full-wave unit described some time ago, but must not be expected to give nearly the same output.

Those who are tired of purchasing dry B batteries for two-valve crystal amplifiers will find it worth while to construct a small eliminator, which will enable full power to be obtained from the amplifier on all occasions, and with a probable improvement in quality, as a power-valve usually gives best results when employing the highest plate voltage specified. The constructor may decide what voltage he will provide by putting on the suitable number of turns, the maximum of which will give a full 200 volts when rectified, and this is more than the average power-valve will require. The power supply for which the eliminator is designed is 230 volts, 50 cycles.

The first unit to be described is the one that is recommended, although it entails rather more work in the shape of constructing a small transformer. Yet the work will be well worth while, and well repaid in after use. And, after all, this column is to a great extent for those who get pleasure out of the making, not only for what the article will do, but for what is learnt in the process of making.

(In the battery charger article, third column, "thin card" is, owing to a misprint, made to read "thin cord.")

THE TRANSFORMER.

IN the issue of March 2 the making of a transformer was described for charging an A battery, and in this article the making of a spool to contain the windings was fully described, together with a winding jig, which makes the process easier. Constructors will there find how to make the spool, and must alter the sizes to those given here. The length inside is the same, 2½ inches, and some strips of paper this width will be required. The spool ends are 2.3 inches square, and the wooden former on which the spool is made is a bare 1.3 square and about 3 inches long, depending upon the exact thickness of the spool ends.

THE PRIMARY WINDING.

THIS consists of 2500 turns of 32's s.w.g. enamelled wire, in 15 layers, averaging 200 turns per layer, and the turns should be put on without spaces between in order to get the full number in, and still leave a small space of at least 1.16-inch at each end. When all the primary turns have been put on, the end of the wire is passed out through a hole in the spool end, and the last layer covered with empire cloth cut to leave no space at the ends, and over this a layer of paper, after which

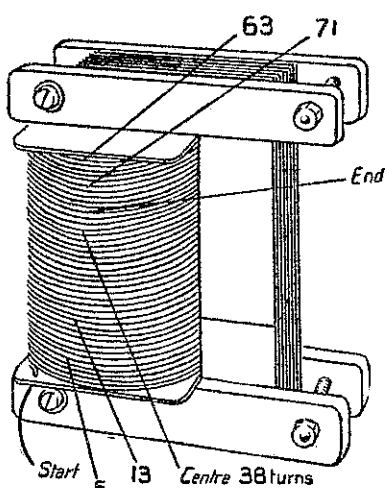
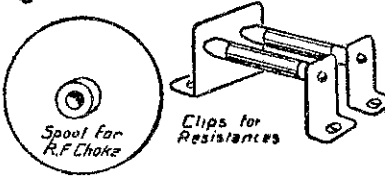
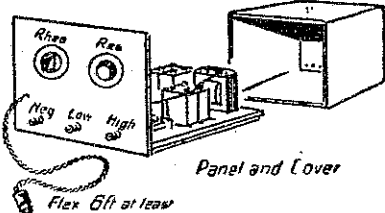
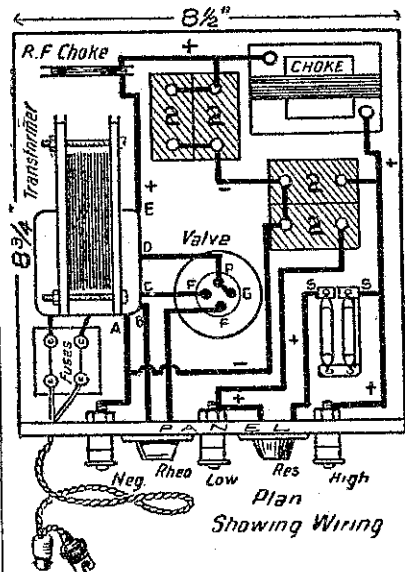
THE SECONDARY WINDING

is proceeded with. This may be varied at the option of the constructor, according to the voltage decided upon, or the whole 3000 turns may be put on and taps provided as required. This method of tapping is good in any case, but only one tap must be used at one time, as different voltages cannot be tapped off at this point. The one voltage must be taken and reduced by resistances. This winding is 36's s.w.g. enamelled wire averaging 300 turns per layer, and for 3000 turns 10 layers will be required, each layer giving about 25 volts.

The following table shows voltages obtainable by tapping the end of every layer, though actually it would be sufficient to tap alternate layers, giving 100, 150, 200, 250. It must also be remembered that from these figures has to be deducted the drop, about 30 volts, caused by the rectifying valve.

Lays.	Turns.	Volts.
10	3000	250
9	2700	220
8	2400	200
7	2100	170
6	1800	145
5	1500	120
4	1200	100
3	900	75
2	600	50

Seven layers will suffice for most purposes, as that will give nearly 150 volts maximum output, which will work at full volume any valves likely to be used in a two-valve amplifier. There



is provision for two voltages, so that the first valve may be worked with less plate voltage. With taps provided, a reduced voltage may be obtained on both without the need of putting in a large amount of extra resistance. Those who have been working with, say, a 90-volt dry B battery will find even 100 volts from an eliminator quite a good increase, because a 90-volt dry battery may only be giving 70 volts after a few weeks' use and 50 when discarded, whereas the eliminator delivers the full voltage all the time. Valves can be "paralysed" by getting too much plate voltage, so nothing is to be gained by greatly exceeding the maximum voltage recommended by the manufacturers.

Taps are to be brought out through the spool ends at the most convenient

place, but not where the laminations come, which position is marked by the cross-piece put on temporarily as directed.

When the secondary winding is finished the usual covering of paper, empire cloth, and another layer of paper is put on ready for the

FILAMENT WINDING.

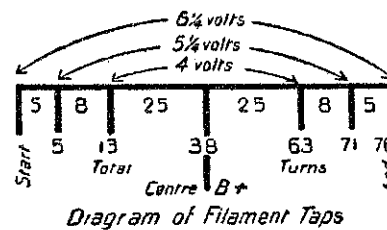
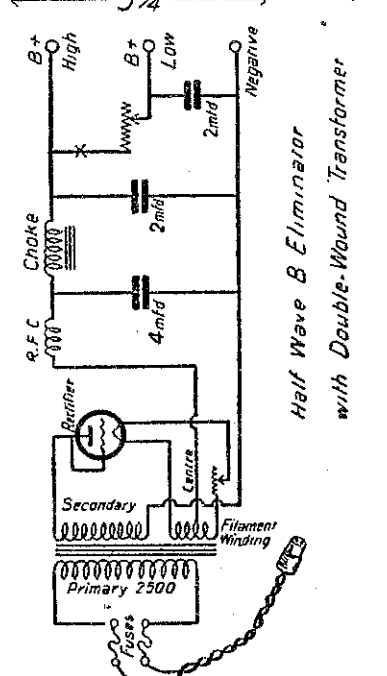
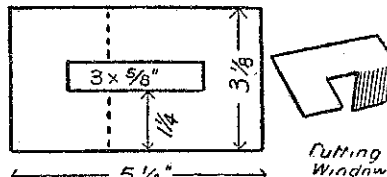
THIS consists of 76 turns of 22's s.w.g. double cotton-covered wire, tapped at 5, 13, 38, 63, and 71 turns. Commencing at one end, the end of the wire is put through a hole in spool end, five turns wound on, a tap soldered on, then eight more turns and a tap, then twenty-five turns more arrives at the 38th turn, which is the centre tap, after which twenty-five more make the 63rd, then eight the 71st, and five more completes. It will be found that the centre tap comes past the centre, and that when the 63rd turn is reached the layer is full, and this tap is at the end. The winding so far in place must now be well shellaced and a strip of paper an inch wide wound twice round over the last completed end of the layer. The remaining turns, 13, are now put on over the paper, the end cut and left free, wire shellaced and left to dry, when a suitable covering may be put on. A diagram shows the transformer with filament winding uncovered in order to give an idea of the arrangement of taps. The filament winding gives 6½ volts over the full coil, five turns less at each end gives 5½ volts, and eight turns less again on each side, 4 volts. These voltages will suit any rectifying valve likely to be used. A rheostat is put into the circuit for filament control, so that the taps to be used are the two giving the voltage slightly above that actually required, the reduction being made with the rheostat. The centre tap is the B positive output, which may at first appear strange, but as the current to be rectified enters the valve at the plate, and can only travel from plate to filament, the rectified current must be drawn from the filament, and this is done at the centre of the filament winding, which connects through the two chokes to the output terminals.

LAMINATIONS.

THESE are cut from ordinary sheet-iron not exceeding 1.64th of an inch in thickness. A sheet-metal worker will supply about 52 pieces cut 5½ by 3 1-8 for 2s. 6d. When the winding is completed it will be possible to see the exact width required for the "window" through which the turns of wire pass. This should not exceed 5.8-inch, and may be less. It should not be made larger than necessary. The length of opening is 3 inches. The iron may be marked by cutting a square of card the same size, cutting out the window, and two notches on the edges where the iron is cut through into two pieces. This card can then be laid on each piece and scratched round or stencilled with white paint. If the two halves of each piece are numbered 1-1, 2-2, and so on with white paint, they may be assembled in pairs and will fit, however irregularly the dividing cut has been made.

Now each piece of iron is to be divided into two pieces by cutting across the dotted lines shown on diagram, these being 2 inches from the nearest end. Next, a cut is made for each side of the window, and the cut across the short end made by bending down the right-hand end as shown in the diagram. Make a good clean bend of this—it will easily straighten out. Ordinary snips will do the cutting. The bends are now to be taken out roughly by bending back by hand. The iron is then ready to be flattened by tapping with a hammer on an iron surface—the face of an old flat-iron is suitable. The next process is to paint over both sides of the iron with thin

shellac, applied with a brush. The shellac varnish is made by dissolving common shellac in methylated spirits. This soon dries and the assembling may be proceeded with. The wood clamps are 4½in. long, drilled 3½in. centres for 3-16in. brass bolts 2in. long. The clamps are 1in. wide, just under ½in. thick to take the brass bolts easily. Instructions regarding stallooy strips and packing tight apply here, but the assembling is easier. One side of the iron is to be cut exactly 1½in. as shown, and it is this side that goes inside the winding in every case. The joints are placed at alternate ends so that two



do not come together in adjacent layers.

The clamps are put on and carefully screwed up tight, adjusting the position of laminations at the same time. If there is room, adhesive tape should be passed round the outside iron against spool, and the whole bound as tightly as possible to ensure that there can be no looseness to allow of the iron setting up a mechanical hum, which would be detrimental.

THE CONDENSERS.

WE now come to the smoothing equipment which is to fill in the gaps left by the suppressed half-cycle of current, and turn it into a smooth, unbroken, direct current. The condenser capacity totals 8 microfarads, the actual capacities required are 4 microfarads and two of 2 mfd. each, but the 4 may be made up of two 2's, as shown in the shaded blocks on plan. Either the Dubilier or T.C.C. makes are suitable in the low-priced quality. A wire connects one end of each condenser and then continues to negative terminal.

THE R.F. CHOKE.

THIS is a useful addition to an eliminator. It is made by cutting two discs of cardboard 2in. in diameter. To the centre of one of these is glued a small section of a thin wire-spool core sawn a little over ½in. thick. The diagram shows the R.F. choke spool with one side removed.

The other side is then glued on and 1000 turns of 36's s.w.g. enamelled wire are put on

THE SMOOTHING CHOKE.

THIS can be made on the same model as a transformer, but smaller, and laminations are all assembled to bring joints together and a thin piece of card is put between the butting ends. If you have an audio transformer in your set that is of ancient pedigree and rather small in size it would be a good idea to take it down, make a new spool, wind on as much 36's enamelled wire as there is room for, then assemble core with joints all together, slip a bit of card between joints and clamp up. You can then invest in an up-to-date transformer for the set and benefit by the improvement. In any case, try to obtain a burnt-out transformer to re-wind for the choke.

THE RECTIFYING VALVE.

A PM4 power-valve can be used as the rectifier, but there are a number of specially-made rectifying valves on the market. Mullard DU10 half wave, 2.7 volts, 77 amps.; Philips 373 half-wave, 2 to 3.5 volts, .6 to .9 amps., are two good valves for the purpose. The UX216B requires a filament voltage of 7½, which would necessitate about 18 extra turns on the winding. When an ordinary valve such as the PM4 is used, the grid and plate are both to be connected together, the most convenient way being to continue the connecting wire from plate to grid terminal on the holder. A full-wave valve may have both plates connected in the same way to use for half-wave, but full-wave valves cost more than half-wave.

RESISTANCES.

A ROYALTY type B variable resistance, 1500 to 100,000 ohms is the best to use in the "low" or detector circuit. The two cartridge resistances shown are 100,000 ohms each, but are not likely to be necessary, but are provided for if required. In wiring up, for the first trial, wire across SS, leaving out the brass clips and resistances. If a lower voltage is required, one or both may be added. Their position is shown by an X on the theoretical diagram.

BASEBOARD, PANEL, AND COVER.

THE baseboard is 8½ inches wide and 8½ inches deep, and this size will be found to fit into a standard square biscuit-tin, which would make a cheap ready-made cover, stripped of paper and finished with black cycle enamel. All that has to be done to the tin is to punch a few holes at the top and along the back bottom edge for ventilation. The panel may be of ebonite, three-ply, or, better still, tin, also enamelled black. The Royalty and rheostat will attach without insulation, so a small strip of ebonite could be bolted in to take the three terminals. If tin is used, the sides should be bent back about 1½in. and cut sloping to nothing at the top. The bottom end can then be screwed to side of baseboard to act as a strut to stiffen panel and hold it upright. Light battens should be screwed under base to prevent warping.

GENERAL HINTS.

AN American valve holder should be used unless the required valve cannot be obtained with an American base.

In order to protect the secondary windings from damage in case of a short circuit, it is wise to include a tin-foil fuse in the negative B. This fuse

QUERIES BY CORRESPONDENCE.

1. Every communication enclosing queries is to be addressed to "Megohm," Box 1032, Wellington, and must be accompanied by a stamped addressed envelope for reply by post.
2. Questions must be written so that a space is left in which the reply may be added.
3. No charge is made for replies.

(Continued on page 11.)

Igranic "C.C." (Choke Capacity) Output Unit

The use of the Igranic "C.C." Output Unit diverts the steady anode current of the last valve from the loud speaker windings, thus protecting the loud speaker and preventing demagnetisation. It also obviates saturation of the loud speaker magnets (a frequent cause of distortion), and makes possible a closer adjustment of the diaphragm with consequent increased sensitivity.

It also prevents, when used in a two-stage low-frequency amplifier, the common tendency of the amplifier to produce a howl, as a result of battery reaction, or to develop the trouble known as "motor-biking" when using a H.T. Supply Unit.

It is enclosed in a metal shield, and plainly marked terminals are provided for the connection.

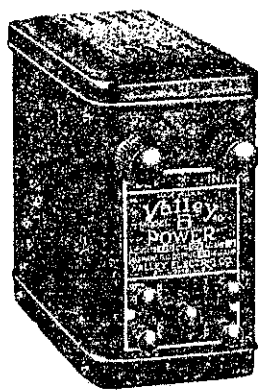
Price - - - 25/-

OBTAINABLE FROM ALL RADIO DEALERS.

INTERNATIONAL RADIO CO. LTD.

FORD BUILDINGS, WELLINGTON.

VALLEY "B" Battery Eliminator



MODEL 40
Raytheon Valve Equipped.
Ensures Perfect Reception.
Suits all Receiving Sets up to seven valves or less. Specially designed to furnish all necessary B voltage, also C voltage required for UX12 power valve.
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The Economical "B" Battery

Cut down your "B" Battery expense by fitting the BURGESS 10,308 OVERSIZE "B" Battery—the noiseless "B" Battery which delivers a heavy, steady current, and has over TWICE THE LIFE of the ordinary Battery.

LOOK FOR THE MARK
BURGESS 10,308 OVERSIZE.

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Construction Continued

is the same as the two in the A.C. input, and can be made on a chip of ebonite 1½ by ½ in., and placed next to the negative terminal behind the panel, the leads to transformer and condensers being connected to the inner end.

In order to be able to place a loose piece of tin as a screen between the transformer and valve, etc., it is a good plan to run all the leads running in a right-hand direction down under the board and up again at their respective connections. A sheet of tin is then cut to fit between the R.F. choke and condensers, running up to the front panel and as high as the cover will allow. This should then be covered with paper on each side and dropped into place. Its object is to isolate any hum that might emanate from the transformer. In use it may be found an improvement to connect the tin cover to earth, and for this purpose a terminal may be attached to the cover.

The following are approximate prices of parts required:—

Rectifying valve	£ s. d.
1lb. 32's s.w.g. enamelled wire ..	0 15 0
1lb. 36's s.w.g. enamelled wire ..	0 6 0
Iron	0 8 0
.....	0 2 6

4 condensers, 2 mfd. each ..	1 16 0
Royalty or Kimmco variable resistance, 1500 to 100,000 ohms	0 10 0
Valve holder	0 10 0
Rheostat, 30 ohms	0 3 0
3 terminals	0 1 0
Flex, adapter	0 2 0
Connecting wire, 4 brass bolts, screws, ebonite, etc.	0 5 0
.....	£4 10 6

The small ebonite panel to which the lighting flex is attached is 1½ inch square. On this are secured under washers by ½ in. brass bolts, two fine strips of tinfoil to act as fuses. The inner end of each of these connects direct to a respective end of the primary winding.

On the plan diagram is shown the way to wire in a lighting socket with the adapter plug so that the eliminator may be plugged into any light socket and still allow the lamp to be used. Do not have the flex too short, as a few feet extra will do no harm and may save a lot of inconvenience.

Next week will be described a different circuit for a similar eliminator.

Views in Our Mail Bag

ANSWERS TO CORRESPONDENTS.

C.G., Wanganui: No country anywhere to our knowledge finds it possible to differentiate in license fee between crystal and valve owners. Valve owners contend that if it were not for crystal owners their fees would be smaller as one station would serve the Dominion. It is to carry the music to the crystal owners and give them the same local service as valve owners get that local stations are needed. The fee is fixed by the Postal authorities and not by the company.

A Listener's Comment.

"There are two kinds of radio correspondents," writes "Ferro" (Lyall Bay). "One writes to the papers with constructive criticism and the other is a mere empty-headed agitator, who for business purposes writes to the Press with the sole object of getting publicity. Why don't the editors sort out the wasters from the genuine fans and refuse space to these self-advertisers? Radio is going to get a smack-up if these notoriety-seekers are permitted to voice their stupid and unwarranted criticism. Some of us know these goats by their 'ba-as,' but what about those who are new at the game? I suggest administering the waste-paper basket act to these blaters."

The Norwegian Whalers.

S.J.R. (Brooklyn): In your issue dated March 9, a correspondent, "W.J.P.," wrote under the heading "The C. A. Larsen on the air," describing a concert somewhat imperfectly received. This concert, however, originated from the ship station AQB, which is the Sir James Clark Ross, now homeward-bound to Norway. The wavelength was in the vicinity of 430 metres (between 2YA and 2IC). I first picked up this station on Thursday, March 1, at about 10.30 p.m. Volume was good, but the speech was unintelligible—possibly in Norwegian. No call sign was heard. On Friday, March 2, this station was tuned in about 10.10 p.m., just in time to hear the operator say "C. A. Larsen." I will call you up again in a few minutes," after which he shut down. At 10.20 p.m. (fall times were then, of course, "Side time"), he started up again with "Allo, allo, allo, C. A. Larsen, C. A. Larsen, C. A. Larsen," followed by a few personal messages. A musical programme was then broadcast, the items being as follows:—Orchestral selection, the orchestra apparently consisting mainly of guitars and flutes; accordion solo, by "Bell"; orchestral item, "If You Knew Susie." At this stage (10.45 p.m.) the operator requested that reports on reception be sent to the C. A. Larsen, at Stewart Island, or to the radio station, Avarua, who would communicate with AQB on short

wave. Ships were asked to report direct to AQB. The programme concluded with the orchestral item, "Show me the way to go home," followed by a further request for reports and a resume of the following (Saturday) night's programme, which was to commence after 2YA closed down. Items to be included were songs by the choir and solos on a hand saw (some of these being heard on Saturday night). The station closed down at 10.55 p.m. Volume throughout was good, with no fading, loudspeaker strength being slightly better than that of the chief Australian stations.

Trusting that this report may be of interest.

C. Nicholson (Bluff): I notice a correspondent in this week's "Record" heard a voice speaking in a foreign language on nearly 2YA wave-length. Will you inform him per medium of your paper, that the voice was the Norwegian whaler "Sir James Clark Ross" speaking to the "C. A. Larsen," her sister ship, now wrecked. The voice was speaking in Norwegian. The ship was at its base in Paterson Inlet, Stewart Island, 21 miles by water from here. On the night that the whaler "C. A. Larsen" was wrecked the operator was speaking very rapidly in Norwegian and occasionally in Morse. His wave-length is approximately 426 metres.

Various Stations.

S. R. Ellis (Taranaki): In connection with Dr. Zieles' article in "Our Mail Bag" columns on the different stations he picks up on his set, the station he heard on 2YA wave-length was the C. A. Larsen, now stranded on Stewart Island. I picked him up the same night after 2YA had closed down, and they were broadcasting gramophone items. It came through very well, too, about as loud as 4YA comes through here, which is a very fair station just now. Re 2UW, it is a Sydney station. I picked it up at 9 o'clock Friday night, 8th inst, and they were on gramophone items, and it came through as loud as 2YA. I would also like to know about this Yankee station. What wave-length is he on, KRON. (242 metres—E.D.). All Aussie stations come through at present very loud and clear, hardly any static of any sort; quite nice to listen to. I would like to know how many valves Dr. Zieles is working on. Later: I was working well down on the dials Sunday night at 8.30, and picked up a station on 230 metres. Could not get the call; static was too bad. They were broadcasting band music, and it faded badly at times. Could anyone tell me who this station is. I also went up a bit higher on 280 metres and picked up a station, call 2ZL, also. What station is this? Static was very bad at the time. They were on gramophone music, and came

through clearly only for static bursting in at times. Could it be Palmerston North? 2UW, Sydney, was coming through well at 9 p.m. on 260 metres.

"Carry On."

Disgusted (Patea): I have just read in the daily Press the report of the meeting of the Taranaki society on broadcasting, and am reminded of a poem I once read, and cut out. The first two verses run:—

My Dad and I long years ago were walking down the street
When suddenly a little dog came yelping round our feet,
He snapped and snarled so viciously—that angry little pup
Appeared to me, as though he thought that he could eat us up;
I turned and threw some stones at him which always missed the mark,
And when I tried to drive him off, the louder he would bark.

Now, son, my father said to me, just plod along your way
Don't turn your head for yelping dogs, Remember what I say.
You'll notice if you pay no heed to him and hold your peace,
That little dog will soon grow tired and all his noise will cease;
But everytime you stamp your foot and shout to him Begone
You show that he's annoying you and keep him following on.

There are two more verses, but as I know your space is valuable, I won't trouble writing them out, more especially as they may be a bit too pointed. But what I want to say is this: I, for one, appreciate that the company is doing its very best and is turning on good programmes. I don't agree with the Taranaki society one bit and a few more here think they're not playing the game. So I'd like to tell the company not to worry, but to carry on the good work and keep improving things. Most listeners are out to help and not smash things up. But there are some who want the limelight, and it's surprising how the papers swallow any criticism. It would almost appear they don't like broadcasting. I've heard it said that the newspapers were behind getting the clubs to demand a fee for relaying the races, but I am glad to see the company has managed to get that fixed.

Racing Broadcasts.

Sport (Wellington): May I say, on behalf of a number of my friends how pleased we are that the broadcasting of races has been resumed. We would like to thank the Wellington and Christchurch Clubs for extending permission, and I, for one, hope that there will be no more efforts to hold back broadcasting. As a listener I think the company was perfectly right in taking the stand it did. I take two papers a week and they get their racing news free. I pay the same money—nine pence a week for my broadcasting, and I don't see that the broadcasting should be paid for. I am certain that the racing clubs will benefit by the races being broadcast. I know for a fact that two people (listeners) who never went to races before have begun going since they had wireless on. Why? Simply because they heard the descriptions and got excited and wanted to be there. However, as one who can't always get to the races, I thought I'd like to thank the clubs for fixing things up.

Hospital (Wellington): I'd like to say how glad I am that the races were broadcast last week. It was real good to be able to hear all that was going on. I always go when I can but, being laid up, hearing about them was the next best thing.

The Gentleman With a Hobby.

G. W. Brown (Auckland): To say that I was astonished on reading in this week's "Record" of the "hobby" adopted by a certain gentleman is to put it mildly. I have long been surprised and puzzled by the persistent undercurrent of antipathy displayed by some writers in the Auckland Press to broadcasting. That is now very largely explained. Experienced listeners, of course, who are in the game and have been in it for a number of years like myself, never have taken much notice of these Press writers—who mostly seem to suffer from bile, and who if they ever had to wield anything more useful than a pen, would certainly make a complete mess of it but the difficulty is that it creates a bad atmosphere and is calculated to prevent new listeners entering the fold and so adding to our strength and building up the service. I notice that while the papers are busy backbiting broadcasting at every opportunity, they are not averse to reaching out their hands for advertisements from dealers who want to sell sets to the public. If I were a dealer I would give up trying to sell radio sets through advertising in papers that won't give broadcasting fair treatment. I think if listeners could be given the opportunity of tarring and feathering the "gentleman with a hobby" he might see fit to find a less despicable pastime—for to me it is despicable and incredible that such sabotage should be deliberately perpetrated. For it is sabotage. I remember when broadcasting first started and the improvement on our programmes since then has been immense. Our Auckland programmes to-day so far as the talent employed is concerned, is top-top, and there is no room for complaint. We are getting the very best the city can give us, and unless some of these critics have better voices and want to try them on us, I don't know that we can expect any better than we are getting. Some time back you had an article sympathetic to strengthening listeners' leagues, etc. On reading that I thought I would take it up and join, but if Auckland is going to be merely the screen for a small clique of hobbyists desirous of destroying, then it is no good to the steady listener like myself. I am afraid that the old law that froth comes to the top still holds good, but thank goodness.

On Short-wave

TALKING TO THE ARCTIC

LONDON HEARD WELL

Mr. F. W. Sellens writes:—

In reply to several inquiries as to the short-wave circuit I am using, it is the same as "Megohm" describes in the "Radio Record" of December 9, 1927, which is, I believe, the most popular of circuits for short-wave reception.

Since writing last, 2MN, England (Mr. Marcuse) has been heard. On Saturday afternoon, March 10, 2XAD was heard from 3 p.m. at fair speaker strength, the "Palmolive" people again being responsible for the greater part of the musical programme. They closed down at 3.35 p.m., New Zealand time. 3AL and 3AR, Canterbury amateurs, were testing on 'phone, and came through at good volume. RFM, on 70 metres, put on some very fine music later on in the evening.

3AL and 3AR were again heard on Sunday afternoon. KDKA, on a slightly lower wavelength than usual—about 25 metres. They were having a very happy time, barn dances, with I think, a concertina, supplying the music. Songs, including "Fire Fire" and "Love's Old Sweet Song," with plenty of stamping and clapping after each item. At the conclusion a voice asked, "Well, everybody, how did you like it?" "All you folk listening-in, send in a card." "Hope you get as much fun out of it as we do." After giving the weather forecast, they called listeners in the Arctic Circle and "wondered how the Eskimos enjoyed the barn dances."

Messages were then read to "the Royal Canadian Mounted Police; members of the Government service, and other residents of the top of the world—the Arctic Circle." Also, on behalf of the Hudson Bay Company, the dates of the arrival of supply ships at various places were given; these dates were in June and July, so I suppose this is when the ice allows passage to the places mentioned.

2XAF also came in very well, the programme being relayed from Buffalo. Reception was spoilt by morse interference. They signed off at 12.13, Eastern standard time. Wavelength given as 31.4 metres.

2BO, Wellington, and 2AB, Wanganui, were also heard during the afternoon. 2NM (Marcuse) was heard till 8 p.m., but, as on previous occasions, he was spoilt by morse. He is working on 32.5 metres.

After 2YA closed down, 5LM, Adelaide, was picked up on 32.5 metres, this wavelength being announced. He called a number of amateurs who have been heard at different times on telephony.

2NM was again heard on Monday morning from 6 a.m. at weak speaker strength till 7.30 a.m., when he was weak. Morse interference spoilt reception.

2LO was not as good as usual, fading being bad. Band music was heard on about 36 metres, the call was not heard, but think it was AFK, Germany.

During the evening RFM, on 70 metres, was the best I have heard it on the wave-length. Some very good musical items were enjoyed.

On Tuesday morning music and talk was heard on about 53 metres. Between each musical item a few words were spoken—probably the call, but could not get it. 5SW was tuned in at 6.30 a.m., but howling valves spoilt reception. The usual talks and musical items were given. During the evening RFM was heard, also several Australian broadcast stations on harmonics, which were stronger than usual.

hobby horse I for one will know how to treat his effusions with contempt. I appreciate the work the company is doing under great difficulties, and I firmly believe so do the great body of listeners. One always hears more of the "discontents" than the "contents," and it is a great pity that the Press should be so one-sided.

Listening to 5SW talking to 2XAD on Wednesday morning, the Englishman stated that "We have two aerials and two receiving sets for you." Also: "We have gained a lot of information with these Tuesday and Friday tests." They were, during this period, testing out if static heard by the one station was heard by the other, apparently it was not, as, when 5SW said: "Did you get that?" or the same question from 2XAD, the reply was usually no! Static was absent while listening from here, but could hear very faintly that which 5SW was getting when he said "Did you get that?"

PCJJ came in at weak speaker strength, steady and clear, closing down just before 6.30 a.m.

Big Ben at 6.30 a.m. came the loudest yet. King gave a lecture on spring flowers grown in the Scilly Islands. About 75 per cent. of his talk was intelligible at least 10ft. from the speaker. Piano duets and another lecture followed.

On Wednesday evening static was too bad for short-wave listening and howlers too bad for broadcast listening, so it was an off night.

Thursday morning AFK was heard on about 52.5 metres. After musical items "Achtung, Achtung," followed a number of V's and AFK in Morse. This station has been heard on several wave-lengths, probably testing to find which is the best.

During the evening 2AW, Wellington, was testing on about 85 metres, and RFM on 70 metres.

PCJJ was better again on Friday morning as regards volume. For a short time modulation went off, but improved again. They signed off at 6.34 a.m. till Saturday (early Sunday here).

At 5.10 a.m. our old friend "Allo, Allo, Au Japanese" was heard talking all the time with plenty of "allo, allo" at intervals. His full call sounds like "Allo, Allo, Au Japanese, Meauson, Minnean." Reception was good.

AFK was heard on about 52.5 metres, music and talk with the call in Morse. At 6.30 5SW, after Big Ben, had a lady giving a lecture, with the usual piano duets following.

Early Saturday morning 2XAD and 5SW were testing.

At 6.30, 5SW, as usual, commenced their evening session with Big Ben, followed by a talk by Mr. —, music critic. He went on to talk about his correspondents. Music and another lecture followed.

AFK was working on about 52.5 metres, but was weak. A station was heard on about 32.5 metres, announcing that it was "— testing." Volume fluctuated very much from good 'phone to inaudible.

WORLD'S GREAT STATIONS

MOST POWERFUL IN U.S.A.

The three mightiest broadcasts in the world are located in the United States. WEAU at Bellemore, N.Y., KDKA at Pittsburgh and WGY at Schenectady, N.Y., each have a capacity of 50,000 watts and lead the field.

The most powerful stations outside the United States are at Moscow, Russia, and at Motola, Sweden, each operating on 40,000 watts.

A survey made by the electrical equipment division of the United States Department of Commerce shows that 665 of the 1116 stations throughout the world are located in the United States. Europe has 198, North America, outside the United States, 128; South America, 52; Asia, 18; Oceania, 23; and Africa, 9.

Daventry's Giant.

Daventry, England, has a 36,000 watt station and a station of power ranking above 40,000 watts is reported to be under consideration in the Netherlands.

The biggest station in Canada is one of 1500 watts at Calgary. In Argentina, among the powerful stations are two of 5000 watts at Buenos Aires.

In foreign countries governments own and operate 77 stations; associations and institutions, 87; commercial and industrial establishments, 69; broadcasting companies, 127; and private citizens, 33.



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LONDON ON ONE VALVE

A GOOD PERFORMANCE

Mr. A. P. Morrison (Brooklyn): I have to report excellent reception of 6SW recently, a station, I must say, I have not had the best of receptions from till Wednesday, February 29, when I received him at 6.30 a.m., when he was at his usual conversation with EXAD, America. Their general talk this particular morning was in regard to changing one another's wave-length. EXAD asked 6SW which would be the better for him, to go up or down in his wave, and the reply was the former. A minute or so after this 6SW asked about his cold, and he said it was better. The reply was, "You must have a good climate over there." On this particular morning I could hear 6SW's voice the best, but on Tuesday, March 13, I found it possible to tune in both stations. At one part of their transmission EXAD was putting over music and 6SW was talking about books and asking EXAD to send a certain book across to him. Wednesday, March 14, I stayed up for 6SW, transmission beginning at 12 p.m. (our time), after Big Ben chiming the half-hour, the announcement being given, "London calling." The first item was a violin solo, followed by a tenor solo. The programme continued on with selections given by a dance orchestra. The name of the conductor was given, but I did not catch it. The first two items were fox trots ("Dancing All Night" and "Sweeping Cobwebs Round the Room"), then Big Ben chimed and 1 o'clock struck. Just to test the strength of their transmission I plugged into detector alone with 'phones, and heard a vocal duet given by a lady and gentleman. One part of this item the gentleman whistled while his partner was singing. With just the one valve every word could be heard distinctly.

Perhaps if you had said England would be heard on one valve four years ago one would probably have laughed at it. I listened to their programme till 1 o'clock, when they signed off.

The German station RSR is now operating on 61 metres, and sometimes round about 42 metres he begins his test with "Achtung, achtung" (Hullo, hullo), Radio SW Station, RSR Karlsruhe, Germany. RSR is given in distinct English. He is usually to be found operating on Tuesdays, Wednesdays, and Saturday mornings, between 5.30 and 6.30 o'clock; strength and modulation is quite good, about the same strength as RFL, when he was on 60 metres. Saturday, March 10, he was playing selections from the opera "Madam Butterfly."

On March 10 and 11 the following stations were heard:—RSR, Germany; RDKA, Pittsburgh; "An Japanese"; KDM, Russia; 4VN, Palmerston; 2AL, —; 2BL, Sydney, 33.55 metres, giving the description of the boxing match at the Sydney Stadium; 5LM, Adelaide; 7CW, Hobart; 2HM, Hobart, and a new one to me, 2YG, Sydney, 32 metres.

P.S.—Could any SW listener give me any information about a SW station with its call sign JB, Johannesburg, S.A., operating on 20.25 metres. I would be very pleased to hear from anyone logging this station.

"Record" Adaptor Does Good Work.

S. McLeod, (Mosgiel): Perhaps it may be of some interest to you to know how I am receiving the English station 6SW, on my S.W. receiver. I have had the set a week, and have logged quite a few foreign stations. At 6.30 a.m. on Saturday, the 10th instant, I tuned in 6SW. Big Ben was then striking the hour of 7 p.m., after which the announcer said "London calling." This was followed by a lecture on Nurse Cavell, which lasted for about 20 minutes. A pianoforte duet was next, then two songs sung in French. Next was another lecture on metals given by a professor in Sheffield. He was still going strong at 8.30 a.m., when I had to close down. I might mention that all this was received on the loudspeaker, and quite audible in any part of the house.

I have also received PCJJ, 2NM, RFL, 2FC, 3LO, and 3AR all on the loudspeaker.

This morning (Monday, March 19) at 6.45 a.m., I received a foreign station on about 30 metres, calling "Allo, Allo." Wassaw—Wassaw—Wassaw—each time with a different word after Wassaw. Could you tell me who this might be? I have also received quite a few, speaking foreign languages, but have not been able to get their call-sign. The receiver is the "Record S.W. adaptor," amplified by two valves in my 4-valve Browning-Drake receiver, the three valves being 201A's. I get best results by using the broadcast aerial as aerial, and the S.W. aerial as the earth. Could you tell me if there are any S.W. stations in Africa, as I would like to get the "All Black" football matches in the winter. (See Mr. Morrison's letter.) Could you tell me what mornings 6SW is on the air, as he has not been on since Saturday. (See Mr. Selten's letter.)

WANGANUI SHOW

On Thursday last, on the occasion of the Wellington Racing Club's meeting, 2YA broadcast the meeting on relay. On the same day the Wanganui Show was held, and as a number of dealers had stands on the ground, the opportunity was taken to instal speakers and let the crowd hear the results as they came through. This enterprise was much appreciated and substantial groups thronged the speakers during all races.

Station 2YA was informed of the show being on and readily agreed to broadcast choice gramophone items between the races. These also were much appreciated, particularly by the ladies on the showground.

RADIO EVERYWHERE

SPIRIT OF THE AGE

USE BY THE CHURCH.

Though motor-cars have taken people away from churches to the hills and beaches, they cannot take them entirely away from the radio loudspeaker, which in itself forces the upset of bigoted denominations, according to the Rev. Lionel B. Fletcher, President of the Congregational Union of New Zealand, and the first minister to broadcast in New Zealand.

Mr. Fletcher, in his address to the annual assembly last week, says the "Lyttelton Times" drew a picture of the change which the motor-car and the wireless set had wrought in the lives of the present generation. He said that he was pleased that radio was working against any narrow denominationalism.

"Have you considered what the discoveries of science are leading to?" he asked. "In the past thirty years we have had the motor-car and broadcasting placed within the reach of comparatively everybody. A motor-car in a family is one of the most revolutionary agencies we have ever embraced. A family is never again the same once it possesses one. A man soon finds that his whole financial habits have become changed. He is facing new expenses and new demands on his earning power. But more, he has brought in an agency which breaks up the old-fashioned life to which he was previously accustomed."

WHOLE FAMILY ON WHEELS.

"It is not long before his son gets a car too; and in a land like America, where cars and petrol are cheap, sometimes three and four members of the family have a car each. Then the children are rarely at home. The house becomes a place in which to sleep and sometimes in which to eat. Summer shacks can now be built and used, because distance is nothing. Week-ends during the summer are the fashion, whole populations migrate, families split up, churches are forsaken, the beaches are the sanctities disappear, and a new feverishness possesses the population."

"No criticism can prevent this. It is an accomplished fact, and the present generation accepts it as part of its life. The old idea of Sunday has practically gone—gone with the family altar where the head of the house was the high priest and asked God's blessing as the children gathered around the table."

WIRELESS PENETRATES.

"Now comes the advance in our knowledge of wireless communication. I say it seriously, that it seems to me that it is God meeting the situation by placing in our hands the means of reaching the scattered people with His invitation. The people fly off in their motor-cars, but there is no place where they can escape the voice of the preacher, for practically everywhere the loudspeaker is in use, and on Sundays the voice of someone proclaiming the truth as it is in Christ is heard. The result is, I believe, more people are listening to the Gospel to-day than ever before."

"But this is a serious test of our denominational system. Anglicans now hear non-Anglicans telling the old, old story. Non-Anglicans now hear the dignified and well-ordered service of the Cathedral as it comes over the air. Followers of Christ now hear the Unitarian preacher or the Theosophist propounding his teaching, and here denominationalism is helpless. I know that eventually, in the feverish desire to retain their position, denominations will, as they do elsewhere, erect their own broadcasting stations, but no denomination will be able to prevent its people choosing their own preacher, for, if they are not interested, they can switch off without being rude and tune in to someone else, either in their own country or in another."

"Thank God it is so. But it is a fierce test for our organised churches, and I believe it is God Himself forcing the issue which we, in our narrow bigotry, refuse to face. Personally, I have no denominational axe to grind. I would, to-morrow, welcome the abandonment of denominationalism and the merging of all denominations into a mighty union if that were within the realm of practical possibility."



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THE WAY THEY HAVE IN U.S.A.

PAYMENTS FOR BROADCASTING

VALUE OF PUBLICITY.

Mr. Frank Reid, of Dunedin, who has just returned to New Zealand after a year's sojourn in San Francisco, felt it to be his duty to call on the headquarters of the Broadcasting Company when passing through Christchurch last week, and to tell of his impressions of broadcasting in America.

Mr. Reid had frequently communicated with the Broadcasting Company, and he had heard the New Zealand stations "on the air," so his introduction to 3YA was not that of a stranger, but he hardly expected to see a station of the excellence of 3YA. He said that, although he had seen larger stations and studios, he had seen none with better appointments than 3YA.

In contradistinction with the way broadcasting is carried out in New Zealand, where all listeners pay a license fee, the companies in America derive their revenue solely from advertisers, who pay for the publicity given. In American broadcasting, "time is money" with a vengeance. Commercial firms will pay 1000 dollars a minute for the privilege of putting on a concert or other attraction, to which their name is attached. And not only do they pay for the time during which the concert is broadcast, but they pay for the artists as well! Naturally, they pay big fees to outstanding artists, for they must put on a programme which is a credit to themselves. At one station, mentioned by Mr. Reid, one flour milling firm appropriately sponsored a physical exercise session every morning, and also a morning tea session, and paid handsomely for what was thus a good advertisement.

Another broadcasting station which was associated with a gramophone record firm made the fortunes of the Two Black Crows. Such was the publicity given that when these two characters came to San Francisco, they had a stupendous reception.

The remarkable thing about broadcasting in U.S.A., according to Mr. Reid, was the way the big business firms and other organisations were using it for publicity purposes.

"In New Zealand the Broadcasting Company is expected to pay for these relays," Mr. Reid was told.

"Good Lord," he said, and laughed.

SYMONS-ELLWOOD TRIO

A GREAT TRIBUTE PAID.

B. A. Cridland (East Cape Lighthouse) writes: May I take this opportunity to thank you for the excellent paper and the Broadcasting Company of New Zealand for the programmes available to the public. Personally my wife and self wish to do homage to the Symons-Ellwood-Short Trio. I am a disabled ex-Indian Marine officer, and have travelled the world, and I must say I have never at any time, or in any port, including the Philharmonic Hall, London, heard better music than these very excellent people put on for us. Its not so much the music as it is the expression and rendering that, in my humble opinion, is worth a year's license to hear nightly. Every time of Miss Symons' violin reaches our lighthouse and makes us feel life is not so bad after all. Our best respects and wishes to each of the three masters of their various instruments; and may they always see their way clear to entertain us for years to come. All stations come in perfectly here and all programmes are good. Your figures in a recent "Record" stating the amount of money earned by individual radio stations in Australia to be more than you get to run all the company's stations in New Zealand should make people think. I consider, having in mind the short time your company has been "on the air," and the heavy expenses they have met re new stations, etc. in this time, that any person that growls and grumbles at the fare the company is offering, should either buy an efficient radio set (the music is there if the set is capable of getting it) or sell the one they have, as they lack appreciation in their make-up. With my best respects and wishes to paper, company and artists, I am—A humble but appreciative light-keeper.

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HOWLERS STILL HOWL

INCURABLE IN AUSTRALIA

It is contended by experienced broadcast listeners that it is impossible, at present, by any educative means or regulations, to bring about an appreciable diminution in the "howling valve" nuisance. The Sydney "Wireless Weekly" says:—

None of the measures taken appear to have alleviated the oscillation nuisance, and frequently "Wireless Weekly" receives letters from annoyed listeners. Add to the number of letters we receive the number that are not sent, through laziness or general disgust, and we can form a good idea of the amount of unskilled "knob-twisting" that goes on nightly.

A strong case for what he calls "righteous oscillation" has been made out by one of our correspondents, who contends that justifiable oscillation should receive the same clemency as is meted out to justifiable homicide. "If my neighbour is oscillating," he writes, "I feel I have a moral right to draw his attention to the fact by a few crisp howls on my own account. More often than not he takes the tip, and we have peace for the rest of the evening."

Perhaps he is right, but we cannot help thinking that if everybody in the neighbourhood acted accordingly when the first whistle started, the ensuing state of affairs would be worse than the first.

For instance, Mr. Brown, intent on receiving 2FC, is annoyed by a neighbour's oscillation. In an endeavour to advise him of the fact, Mr. Brown makes his own set oscillate. Twenty other neighbours, hearing Mr. Brown's oscillation, wish to goodness he'd stop it, and so that they can let him know he's interfering, they also give a few howls. Another twenty people, each hearing one or another of the culprits, follow the usual order. Result, oscillation for the rest of the evening. Therefore, we think it wise not to answer with an oscillation, and, besides, interfering with neighbour's reception is not allowed by law.

STATIC VERY BAD

EFFECT OF SUN SPOTS.

A very bad bout of static is reported covering several days last week, and synchronising with the development of a series of sun spots. It is now generally established that there is a connection between static and sun spot activity, and apparently listeners last week were subjected to a specially bad spell. Reception of Australian stations was badly affected, and most listeners were obliged to close down on occasions. Country listeners also report that New Zealand stations were somewhat affected. In some cases blame for the ungodly medley of sound that came from the speaker was fastened on the station, one instance coming under our notice being that of a visitor to Palmerston North who found 2YA suffering in reception there, and blamed the transmission. Experienced listeners, of course, can readily detect static from faulty transmission. One country reader wrote: "One minute 2YA roars in, and the next minute a chap goes black in the face through straining his ears. Surely something can be done to rectify this trouble."

Inquiry of the station shows that transmission has been normal, and the difficulty experienced up-country is not due to transmission. The trouble in some cases may be due to batteries being run down at the end of the summer. A good overhaul is necessary in most cases to meet the heavier demands for the winter season ahead. The following points may have some value for some listeners:—

Undesired Noises.

If you have troublesome interference in your receiving set, such as humming, crackling, crashing, or other noises, the source of the noise can be found most easily by a process of elimination. The first thing to do is to discover whether the noise originates in the set itself, or if it comes from some outside source. To do this, disconnect the aerial and ground from the receiving set, and tune the set over its entire range. If the noise is still present and as loud as before, it is in the set, and proper steps to eliminate it can be taken. In most cases where the noise is in the set a worn-out A or B battery will be found to be the source of the trouble.

You can get your batteries tested free of charge at any radio store. If the noise is not in the batteries, a poor or a dirty connection may be the cause of it. If the interfering noise stops when the aerial is disconnected it comes from an outside source, and will have to be traced down with a portable set, using a loop aerial. The interference can be found by trying the portable set in several different locations, getting the direction of the noise with the loop aerial in each place, and then plotting the whole thing out on a map of the neighbourhood. Where the lines drawn through the plane of the loop in each location cross is the point where the interference will be found. This is the same method as used for finding the location of ships at sea.

Origin of "DX."

Operators working morse telegraphy make liberal use of abbreviations in order to reduce the time and labour of sending messages. Apart from a recognised list of abbreviations, it is permissible to replace parts of a word by the letter "X," and so have arisen "xmtor" for transmitter, "wx" for weather, "px" for Press, and "dx" for distance. These are now recognised abbreviations, but that is how they have originally been formed.

RADIO ECHOES

A REMARKABLE DISCOVERY

Radio signals on short waves, from 10 to 30 metres, are known to travel twice around the earth, being heard on the second trip as "echoes" that jumble the messages. The time interval is a fraction of a second, so small that the "echo" interference has been erroneously ascribed to imperfect key-work on the part of the sender.

This remarkable discovery is set forth in a bulletin recently issued by the United States Navy's Communication Division, of which Captain T. T. Craven is director. The article quoted in the official bulletin is by Commander A. Hoyt Taylor, U.S.N.R., and is supplied by the Naval Research Laboratory. Commander Taylor says, in part:

"Signals which have passed around the world in the reverse direction from transmitter to receiver or have passed more than once completely around the world are known in the art to-day as 'echo' signals, because they make themselves manifest in the receiver as echoes make themselves manifest in acoustic phenomena. These signals not only have an intense scientific interest, but with the advent of more and more stations in the very high frequency bands have become of very great practical importance because of their disastrous effect at certain times upon reception. It is amazing that these echo signals which have been photographically recorded after having passed approximately two and one-half times around the world, are of sufficient intensity to cause very serious interferences."

Explains Garbling.

"This station has lately been observing echo signals from a large number of stations at various parts of the world. The purpose of this report is to call the attention of the service to the existence of this phenomena which may, at certain instances at least, explain bad garbling of messages, and which otherwise might be attributed by the receiving operator to faulty keying on the part of the transmitter."

"Echo signals once around the world, that is, manifesting themselves, first as direct signals over the great circle from transmitter to receiver, and second as an echo, going a long way around the world (probably in the same great circle) but in the reverse direction (therefore arriving at an appreciable time interval later than a direct signal), have been observed on various frequencies between 38,000 kcs and 8700 kcs, but are usually restricted on the lower frequencies to a very limited time of day and time of year. However, in the band between 12,000 and 22,000 kcs they may be observed over a large number of hours of the day and over a wider interval in the year."

Day Phenomena.

"The predominant period for observation of echo signals is in the spring or fall, and the best periods of the day are in the morning or late afternoon hours. Without going deeply into the theory of these signals, which is now fairly well understood, it will suffice to say that they require that the great circle route over which they travel shall be more or less in a daylight or twilight zone. Signals which go more than once around the world are still very frequently of at least one-third to one-half the intensity of the direct signal, but are commonly observed over lesser time periods, and are restricted more to the bands around 20,000 kcs."

"However, such signals have occasionally been observed here on San Francisco (NPG) transmitting on 16,700 kcs. When the signal goes more than once around the world, it is generally observed as coming from the same direction as the direct signal. Its time lag over the direct signal is the means of identifying it, and this time lag is approximately .137 seconds, which corresponds to the time it would take an electro-magnetic wave to traverse the periphery of the world on the way around by way of the Heavyside layer at a distance of, roughly, 100 to 150 miles away from the surface of the earth."

"In other words, the time differences do not correspond to a ground wave, but they correspond to the circumference of the Heavyside layer, which is somewhat larger than the circumference of the earth."

Time Difference.

"On San Francisco, for instance, an echo in the reverse direction, that is, the signal which starts westward from San Francisco and arrives at Washington coming from the east instead of west, would arrive with a time difference over the direct signal of about .12 of a second, and the second echo, corresponding to a complete path around the world to a second time, corresponds to .275 seconds."

"When more than one echo is observed the time difference between the first and second echo is apparently almost always .137."

"No methods other than estimates by ear have been used so far by this laboratory for the accurate timing of these signals, but it can be seen at a glance that the time intervals are such as to throw the dots and dashes of a message into a complete jumble, which is indeed, exactly what happened, and since the echoes are of such surprising intensity, conditions do frequently arise where it is absolutely impossible to make copy."

The use of directional antennas is mentioned as a practical method of preventing the "echo" interference. On shipboard, however, "highly directional antennas are not easy to install," and the operators are advised to learn to recognise the effect, and attribute it to its correct cause.