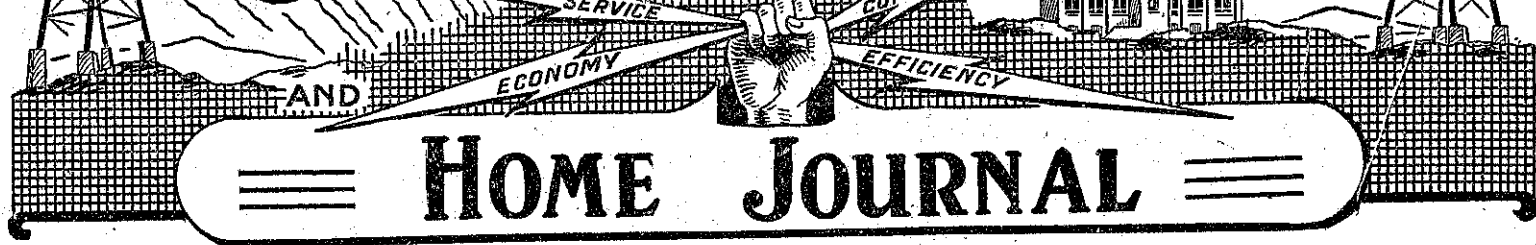


PUBLISHED WEEKLY

THE RADIO RECORD



Vol. IV., No. 40.

WELLINGTON, FRIDAY, APRIL 17, 1931.

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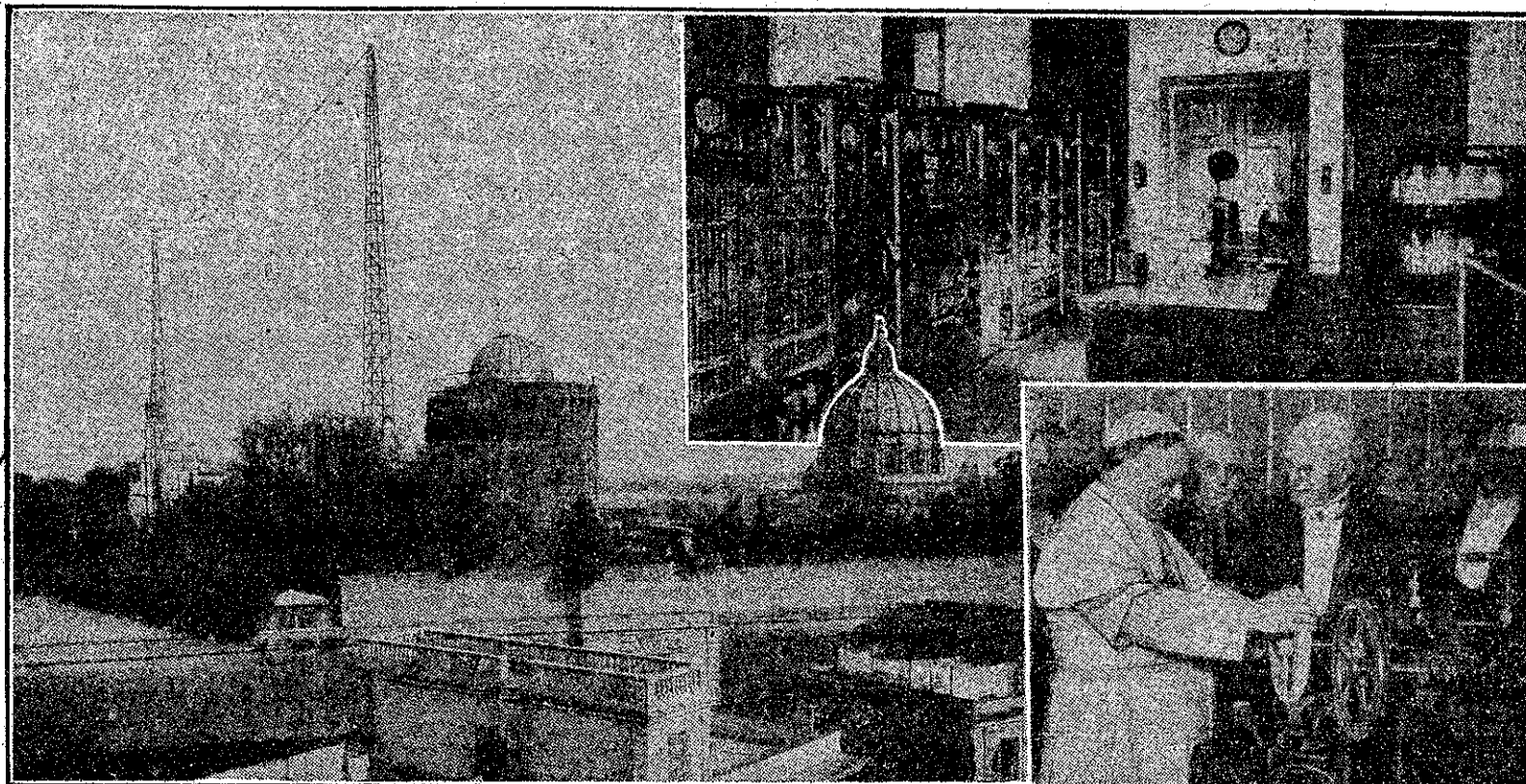
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THE VATICAN SHORT-WAVE STATION:

Some views of the new Vatican City short-wave station, which has a world-wide range. On the right the Pope may be seen performing the opening ceremony, with Marconi in the foreground on his left. A full description of the installation appears elsewhere.

The Story of Short Waves

by

R. J. Orbell, B.E.
(ZL I AX)

RADIO ENGINEERING, probably more than any other kindred science, has undergone radical changes during the past decade. One of the most outstanding of these undoubtedly has been the development of short wave operation. So far-reaching is the result of this discovery that not only is the old system rapidly being discarded in favour of the new for long-distance communication, but there is opened a vista of future developments which falls little short of staggering the imagination.

The whole aspect of radio has been changed. Enormous distances are being covered with almost unbelievable low power, and with apparatus costing only a fraction of the layout required for the earlier long wave transmitting equipment.

Just over ten years ago all long-distance radio was carried on in Morse code, on wavelengths varying between 8000 and 23,800 metres, the latter wavelength being that of the great station at Bordeaux, in France, built in 1920, which used a wavelength longer than any other station has ever done for commercial purposes. Enormous power was necessary to force signals through the almost continuous atmospheric interference which exists on those very long wavelengths.

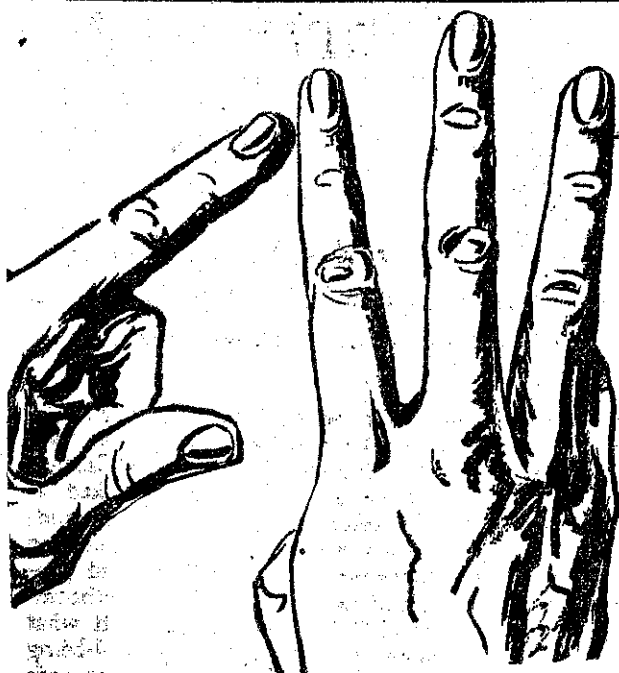
Results were very uncertain as in many localities in the world the stations could be heard well only on rare occasions. The general trend was to longer and longer waves, as it was believed in those days that the longer the wavelength, the better would be the result. The shortest waves then in use were those around 600

metres, for ship to ship and ship to shore communication. Although this wavelength still holds and is specially suited for this purpose for short distances, recourse to shorter waves for longer distances between ship and shore has taken place recently. Following on the ever-growing interest in radio, many experimenters all over the world built apparatus of their

own for purposes of research. This was the case particularly in the United States, where no severe restrictions were placed on amateur experimenters, in contrast to conditions ruling in most other countries.

It became necessary, however, to introduce legislation in the United States to prevent interference between amateurs and commercial stations. To this end the amateurs were given all wavelengths below 200 metres for their own use, it being considered that 200 metres was too low to cause any interference with ships or commercial land stations. Incidentally, such "low" wavelengths were considered useless by the authorities.

All transmissions to date were conducted by the old spark system, with the exception of the high powered commercial stations which used high frequency alternators of the Alexanderson type or of the compensating wave arc system. Both of these latter systems operate more efficiently on extremely long waves. Valves of the de Forest audion type had been used for receiving purposes prior to the war, and improved (Continued on page 29.)



3 IMPORTANT REASONS

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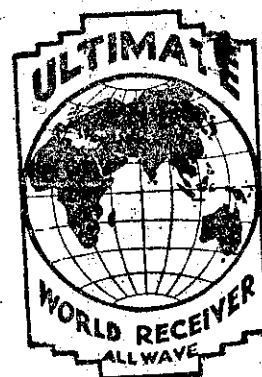
is undoubtedly the finest Short-wave Receiver you can own. It brings in Short-wave Broadcasts from every part of the world, and, in addition, it provides superb reception of all ordinary broadcast programmes. The "ULTIMATE" is

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See it—hear it—TO-DAY! Experience the thrill and fascination of hearing London, New York, China, Siberia, Italy—and scores of other distant places. Arrange with your nearest "ULTIMATE" Distributor for a demonstration, or write for illustrated literature and Free Copy of interesting leaflet, "What is Short-wave?" to Factory Representatives,

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E. G. Elliot, 18 Nelson Terrace, Timaru.
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Shakespeare Anniversary Night

The 315th anniversary of Shakespeare's death falls on April 23, and in commemoration special programmes have been arranged for 1YA and 2YA on that evening.



Madge Thomas as Lady Macbeth, and John Storr as Macbeth, in the scene they will present from 2YA on April 23. During the recent Competitions held in Wellington, they won the open dialogue section with this scene. They broadcast regularly from 2YA as "The Sketchers."

ON April 23, Stratford-on-Avon, the birth-place of Shakespeare, will commence its annual Memorial Week in honour of the greatest poet and playwright England ever knew.

Each year celebrated Shakespearean actors and actresses from all parts of the Empire foregather to pay homage to the long-dead bard. Names such as those of Sir Francis Benson and Sir Johnstone Forbes-Robertson, two leading figures of the Shakespearean world of today, and that of Sybil Thorndike, one of the greatest tragic actresses of our time, are but three of the galaxy of world-famed names whose owners will attend Memorial Week.

In addition, thousands of Shakespeare devotees from all parts of Great Britain make a yearly pilgrimage during Memorial Week to Stratford-on-Avon and its historical neighbourhood, made famous because of Anne Hathaway's cottage, the house of Shakespeare's birth, the celebrated Droeshout engraving, and a hundred other antiquities which perhaps knew the touch of genius.

Processions and festivals, gay with colour, are held in the streets where once Shakespeare walked, while in the famous Memorial Theatre, Shakespearean plays are performed, often by foreign companies. The settings are always of the simplest.

Though we in New Zealand have no Memorial Theatre to keep fresh the name of Shakespeare, nevertheless the approaching

anniversary of his death—the 315th—will not pass unnoticed. On the evening of April 23 Clement May, noted elocutionist and President of the Dickens-Shakespeare Society of Wellington, will present from 2YA four excerpts from three of Shakespeare's most famous plays, namely, "Julius Caesar," "Romeo and Juliet," and "Macbeth." Assisting him will be a chosen company of his pupils.

Below Clement May makes several interesting observations concerning Shakespeare's works, and explains why they are immortal.

"To say that Shakespeare's plays will never die is almost a truism, but the fact was never so forcibly brought home to me as when I was watching a performance of 'Julius Caesar' recently.

"The dress of those taking part was, of course, strange, but I closed my eyes—and heard thoughts and emotions ex-

pressed as I have often heard them in everyday life. We are all unconscious plagiarists of Shakespeare, and that is why his works are modern, and always will be until humanity ceases to exist. They are not just historical writings, but are human documents, instinct with life.

"It is in this respect—in Shakespeare's uncanny ability to clothe himself in the very personalities of living beings, and to voice their thoughts as they themselves would—that he was a genius. His plays live, for they are life, and because of this they are ageless. Pitt, famous statesman and orator, once paid tribute to Shakespeare's beauty of diction by quoting him in his famous speech on the Slave Trade: 'But yesterday, and Britain might have stood against the world. Now none so poor as to do her reverence.' Read 'Caesar' for 'Britain' and 'him' for 'her,' and the quotation is from 'Julius Caesar.' . . ."

The first scene Clement May and his company will present is from "Julius Caesar." It commences just after the murder of Caesar by Brutus and his fellow-conspirators, when Brutus is telling the people not to be affrighted at the tragedy. The conspirators talk among themselves, congratulating each other on the deed, and anticipating the esteem in

which they will be held by posterity: "So often shall the knot of us be call'd, the men that gave their country liberty," avers Cassius.

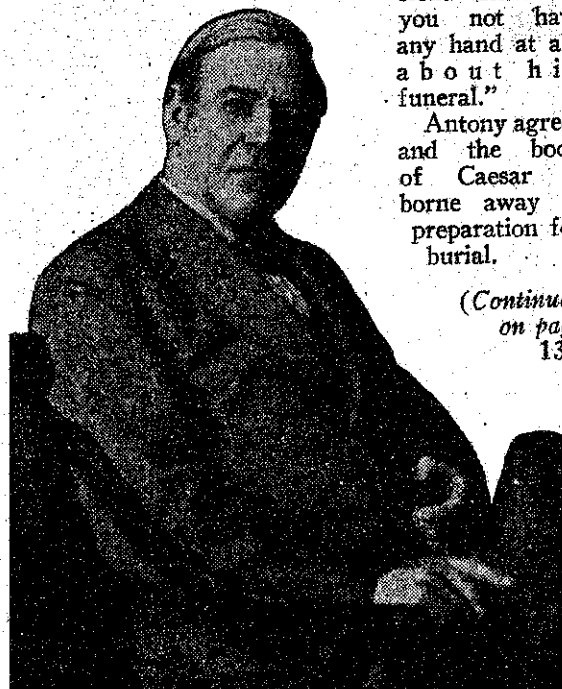
Then Mark Antony enters, shocked at the death of Caesar, and demands an accounting. Brutus, anxious to avoid antagonising Antony, endeavours to placate him, and promises that a full explanation will be forthcoming. Sorrowfully Antony realises that what has been done is perhaps for the well-being of the Empire, but nevertheless he demands proof of Caesar's shortcomings: "Friends am I with you all, and love you all; Upon this hope, that you shall give me reasons, Why, and wherein, Caesar was dangerous."

Antony then asks permission to speak at the funeral. This Cassius counsels against, for Antony's powers of eloquence are well known and would be dangerous if used to sway the populace against the conspirators. Brutus, however, over-rides the objection, provides, as he tells Antony:

"You shall not in your funeral speech blame us. But speak all good you can devise of Caesar: And say, you do't by our permission. Else shall you not have any hand at all, about his funeral."

Antony agrees and the body of Caesar is borne away in preparation for burial.

(Continued on page 13.)



Clement May, who is producing excerpts from Shakespeare from 2YA on April 23. From 1YA J. F. Montague and his dramatic players will present several scenes and vocal numbers from Shakespeare's works.

The New Zealand Radio Record

—AND—

Home Journal

(Incorporating the "Canterbury Radio Journal.")

P.O. BOX, 1032, WELLINGTON.

Published Weekly. Price 3d. Subscription Post Free in advance, 12s. 6d. per annum; booked, 15s.

Literary communications should be addressed: "The Editor"; business communications to "The Manager"; technical communications to "The Technical Editor."

Advertisers are asked to note that alterations of advertisements should be in hand Friday of each week for insertion in the succeeding issue, printed Tuesday, bearing Friday's date. No responsibility is accepted for blocks remaining unclaimed three months after each insertion.

RADIO PUBLISHING COMPANY OF NEW ZEALAND, LTD.,
P.O. Box 1032, WELLINGTON.

WELLINGTON, FRIDAY, APRIL 17, 1931.

CONTROVERSY IN BROADCASTING.

AN interesting question was raised by a deputation, composed mainly of representatives of Christchurch societies, who waited upon the Postmaster-General last week. Their purpose was to seek either a definition of the phrase "propaganda of a controversial nature," as defined in one of the regulations governing broadcasting, or a withdrawal of the ban upon debates held to come under this definition. In brief, the deputation, representing such diverse interests as the Canterbury College Dialectic Society, the No-More-War movement, the W.C.T.U., the League of Nations Union, the Y.M.C.A., the Pacific Relations Group, the National Peace Council, and the W.E.A., represented that the ban upon the discussion of controversial subjects over the air operated against public interest. It was desired that debates upon controversial topics should be permitted, provided both sides were adequately represented.

THIS raises an important issue, and the Minister rightly took time to consider his reply. From all the circumstances attending upon the case, we imagine that, for the time being at any rate, no change in departmental policy will be made. Regulations governing wireless and broadcasting in general are now under review. They have been in the melting-pot for some time, and many interests will be glad to see them made public, so that the future policy can be known. In the meantime the regulations stand, and the Company, in discharging its contractual obligations, must apply those regulations. It is strange in this connection, therefore, for the Minister to have made the comment that the Company, in applying its own regulations, was "sheltering" behind them. The word "sheltering" is inappropriate in this connection. So long as the regulations remain as they are, the Company must apply them.

IN the public interest the "Radio Record" thinks it would be wise for the regulation to be broadened. This would be following the example of the British Broadcasting Corporation. Elsewhere we give in full, from a recent Handbook, the considered statement of the British Broadcasting Corporation's attitude to controversy over the

air, and the policy that has been evolved for its treatment. In brief, the only restriction upon the British Broadcasting Corporation is that it is prevented from expressing its own editorial opinions upon matters of public policy. It is permitted to broadcast statements involving matters of political, religious and industrial controversy. In practice it apparently excludes matters of religious controversy, but has exercised a firm and wise circumspection in handling, by means of public discussions and debates, matters of political and industrial importance. On this aspect a quotation from the Crawford Report is of moment. That Commission said: "Speaking generally, if the material be of high quality, not too lengthy or insistent, and distributed with scrupulous fairness, licensees will desire a moderate amount of controversy." But it was emphasised that the discretion of the governing authority must be upheld; and that authority must act strongly and impartially, with firm and consistent circumspection.

WHILE we believe that matters of public interest should receive treatment over the air, we quite recognise that a heavy responsibility will be placed upon the governing authority once the existing regulations are broadened. Listeners, we imagine, will not welcome discursive or amateurish debates of a protracted character. Talks or discussions are notoriously the most difficult feature of broadcasting with which to achieve success. Music wins its own way. Talking runs the gamut of matter and manner. Good radio voices are rare, and New Zealand largely lacks the experts capable of presenting controversial subjects interestingly. At the same time there is available material of promise in the country, and it would be good for this material to be used. These questions follow inevitably upon the broadening of the main regulations, but must be considered in relation to that issue. We agree with the deputation that it would be desirable for the existing regulations to be broadened, but we cannot fail to recognise that that decision, when made, will impose a heavy responsibility upon the governing authority, for increasing pressure will be exercised by enthusiasts of all sorts and kinds in the effort to parade their views before listeners.

'Carnival of Animals'

Zoological Fancy from 2YA

SAINT-SAENS' "Carnival of the Animals" is to be played by the 2YA Salon Orchestra on Tuesday, April 21.

This "Grand Zoological Fantasy" was written in 1886 as a joke, for a private concert. In it, Saint-Saens gives musical portraits of fish, flesh and fowl, and indulges in ironical wit, in a little satire upon the human animal.

For some reason he insisted that the work as a whole should not be published until after his death. One movement escaped the ban, and became extremely popular—the charming 'cello solo entitled "The Swan."

No. 1. "Introduction and Royal Lion's March." An amusingly gradiose circus-entry, with very effective roars from His Majesty.

No. 2. "Hens and Cocks." Pianos and strings, with clarinet. The fiddle's "cock-a-doodle-doo" is very life-like.

No. 3. "Hemioni" (swift animals). Wild asses caper about all over the keyboards.

No. 4. "Tortoises." A well-known lively tune from Offenbach's "Orpheus" is played extremely slowly with comical effect.

No. 5. "The Elephant." The double bass (or, in another version, the tuba) treads in a lumbering fashion a measure from the Ballet of Sylphs in Berlioz' "Faust."

No. 6. "Kangaroos." Agile skips on the pianos.

No. 7. "Aquarium." An impression of the lithe darts and flashes of fish.

The piano, in arpeggios, and the harmonica, suggest the undulating, shimmering surface of the water.

No. 8. "Long-eared Personages." Two violins imitate the mournful brays of donkeys.

No. 9. "The Cuckoo in the Depths of the Wood." The clarinet gives the bird's familiar call, against a background of piano tone.

No. 10. "The Aviary." Pianos and flute imitate various bird-notes, while strings, trembling, suggest the flutter of wings. The cuckoo is heard again at the end of the movement.

No. 11. "Pianists." These weird beings play finger-exercises, after the fashion of the child next door, from whose early fumbings we have all suffered.

No. 12. "Fossils." Bits of worn French tunes are scattered about. The inclusion of the dance of skeletons, from Saint-Saens' "Danse Macabre," is appropriate, though in one sense those bones whose rattling is so much enjoyed by audiences, cannot be said to be fossilised.

No. 13. "The Swan." A graceful tune for solo 'cello, accompanied by the two pianos. The melody's outline, on paper, is curiously like the curves of a swan.

No. 14. "Finale." A brilliant display by all hands, to wind up.

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Batteries are sold
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than any other.

Why?

Why?

Children's Sessions

From 2YA.

MONDAY, APRIL 20.—Under the direction of Uncle Jeff there will be a radio picnic on the beach. Listen and you will hear the children visit all the sideshows. There will be a steel guitar, banjo and ukelele band on the beach.

TUESDAY.—There will be a play to-night entitled "A Visit to Fairyland." Listen for the "Fairy Bells" and the "Rain Fairy," and hear all about "The Fairy Laundry" and "A Wedding in Fairyland." Uncle Toby and Jumbo have been invited to the Fairy Tea Party.

WEDNESDAY.—Aunt Daisy and her band of Cheerful Chirpers will be in charge to-night. We shall have the next "Meeting-pool" story, and the Chirpers will sing some choruses and sea shanties. Birthday greetings as usual.

THURSDAY.—Shakespeare's Birthday will be celebrated to-night. Scenes from "Midsummer Night's Dream" will be acted by pupils of Mrs. Martyn Williams. There will be songs, the words of which were written by Shakespeare. Uncle George and Big Brother Jack will be in the studio.

FRIDAY.—Here comes Uncle Jim and Story Book Man with their large budget of birthday letters. They will have the pleasure of welcoming a party of children from Miss Fitzgerald's Studio.

SATURDAY.—It is Anzac Day, and the session will be suited to the occasion.

SUNDAY.—Uncle George will conduct the Children's Song Service to-night, and the children from St. Andrew's Presbyterian Church, under the leadership of Miss Rodger, will provide the choral work.

From 3YA.

MONDAY, APRIL 20.—Cousin Margot is in charge to-night, with Mystery Man, and Cousins Joan, Kathleen and Phyllis to lend a hand in making a happy hour for all.

WEDNESDAY.—Uncle John with his interesting stories, and Cousins Myra, Lloyd and Colin to sing and recite.

THURSDAY.—Uncle Frank with a story and song in merry mood, and Cousin Beatrice and her little friends helping with choruses, duets and songs.

FRIDAY.—Chuckie holds the fort of the Children's Hour this evening, and Aunt Pat helps in singing little "Pooh" songs. But the Pirate and Train songs that Chuckie sings are the ones the kiddies like.

SATURDAY.—Here is our friend Uncle Charlie again, with lovely stories of the music masters, which he illustrates with song and music.

SUNDAY.—The Children's Song Service will be conducted by the the Presbyterian Sunday School this evening.

The 1931 "Radio Guide" is now available.

160 pages brim full of useful and interesting information.

Price 2/6. All Booksellers and Dealers.

Broadcast for N.Z. Schools

Important Extensions to Radio Service

ON Tuesday last, April 14, a definite move with respect to utilising the broadcasting service in the New Zealand educational system was made. Working in co-operation with the Department of Education, the Broadcasting Company has extended the hours of transmission at 2YA, and the station is now to go on the air every Tuesday afternoon from 2 to 3 o'clock for the purpose of broadcasting special lecture-lessons, given by the educational authorities, for the benefit of the schools.

The first session was inaugurated by Mr. T. B. Strong, Director of Education, Mr. McKinnon, of the Training College, following with a talk on a nature study topic. A third lecture was on music, given by Mr. Douglas Tayler, Supervisor of School Music. The daily sessions will comprise three lectures, one of which will be on music and will be given by Mr. Tayler.

When we consider the tremendous use that is being made of radio throughout the world for the dissemination of

information and for propaganda purposes, it is strange that so far more has not been made of it in schools. There have been, and still are, many obstacles, particularly in regard to the equipping of the schools with receiving sets, but these will be overcome.

The Department of Education has realised the value of broadcasting as a purveyor of information and instruction to schools, not only in the country but in the city areas, and over two years ago a test transmission was carried out from 2YA. Now, however, the proposal has taken more definite shape and is to be thoroughly tried out. The department is to be commended on its enterprise, as also is the Broadcasting Company, which has thus placed 2YA at its disposal.

IN America and in some of the countries of Europe there are schools very elaborately equipped for the reception and distribution of radio programmes. Usually there is a receiving set in the headmaster's room, and this is linked by wiring either to individual class-rooms or to a common auditorium, equipped with loudspeakers. Where such an installation exists it is not used solely for radio. Switching arrangements are included for transmission from gramophone records and for lectures or lessons spoken into the microphone. Moreover, the transmitting stations are usually colleges or other institutions of an educational nature. The consensus of opinion in regard to these special services is that they have a certain limited and definable value, but that for the ordinary purposes of teaching they are ineffective.

THE New Zealand proposal, as we understand it, is not on those lines. It is intended to make available to schools the services of experts in particular branches of knowledge or experience where personal visits to schools would be out of the question.

By broadcasting, the work of these experts will be manifolded—instead of speaking to the pupils or the teachers of one school, he will address many. Much of the work done by itinerant instructors will be expedited. When broadcasting technique has been thoroughly mastered by the radio instructors, combined with the collaboration of the teachers, radio lecture-lessons will prove very efficient.

The departure made by the Education Department opens up vast possibilities, and Tuesday, April 14, is likely to be an important milestone in the history of education in New Zealand. There is no limit to the subjects which may be dealt with over the air.

In addition to the project undertaken by the Department of Education in respect to the schools, the Workers' Educational Association also proposes to make use of the broadcasting service of New Zealand for the purpose of aiding its study classes located throughout the country. Thus the power of broadcasting as a factor in modern life, capable of being developed for the welfare of the people, is becoming more fully realised and broadcasting is rapidly advancing to fill its rightful sphere.



Percy Grainger's

COLONIAL SONG

an expression of the

Scenery and People of Australia

Broadcast from 2YA

Monday, April 20.

HANDSOME
£37/10/-
Radio Consoles
 COMPLETE
 ROYDS-HOWARD CO.
 553 COLOMBO ST. CH. CH.

Colonial Song An Australian Number

FROM 2YA on Monday, April 20, will be broadcast Percy Grainger's "Colonial Song." Of the numbers to be broadcast Mr. Grainger writes—No traditional tunes of any kind are made use of in this piece, in which I have wished to express feelings aroused by thoughts of the scenery and people of my native land (Australia) and also to voice a certain kind of emotion that seems to me not untypical of native-born colonials in general.

Perhaps it is not unnatural that people living more or less lonely in vast virgin countries, and struggling against natural and climatic hardship (rather than against the more actively and dramatically exciting counter-wills of their fellow-men, as in more thickly populated lands) should run largely to that patiently yearning, inactive, sentimental wistfulness that we find so touchingly expressed in much American art; for instance, in Mark Twain's "Huckleberry Finn," and in Stephen C. Foster's adorable songs, "My Old Kentucky Home," "Old Folks At Home," etc.

I have also noticed curious, almost Italian-like, musical tendencies in brass band performances and ways of singing in Australia (such as a preference for richness and intensity of tone and soulful breadth of phrasing over more subtly and sensitively-varied delicacies of expression) which are also reflected here.

Surely a Record

WE learn from Mr. Reynolds, conductor of the Cambridge Terrace Congregational Children's Choir, that, in the time they have been broadcasting, no fewer than 50 different hymns have been sung. Mr. Reynolds claims that, in this time, no hymn has been broadcast more than once. Surely a record!

The Vatican Wireless Station

Erected Under the Personal Supervision of Marchese Marconi

THE short-wave broadcasting and wireless telephone and telegraph duplex station which has just been opened in the Vatican City has a world-wide range.

The new transmitter in its main features follows the design of the famous short-wave high-speed beam transmitters which are used in the British Imperial beam stations. The complete installation consists of four main panels, and is designed for telephony and high-speed telegraphy on either 19.84 or 50.26 metres. On telephony the transmitter is rated to deliver from 8 to 10 kw. of unmodulated carrier-wave energy to the aerial feeder system, the output depending slightly on the wavelength used. The normal degree of modulation is 80 per cent. The rating on continuous wave telegraphy is 13-15 kw. to the aerial feeder.

Masts and Aerials.

TWO transmitting aerials are provided, one for each wavelength. This type of aerial has been developed recently by the Marconi Company, and is an improved type of vertical short-wave aerial.

Both aerials are suspended and insulated from a triatic slung between two self-supporting lattice steel towers 200 feet in height and 296 feet apart.

The energy from the transmitter building is conveyed to the two aerials by two separate concentric copper tube feeders similar to those used in the British Imperial beam stations. The transmitting building itself is situated near the railway terminus in a part of the grounds in the Vatican which is

surrounded by a Roman wall 45 feet high, whilst the masts are placed outside this wall. In order not to destroy the amenities of the Vatican gardens a tunnel 141 feet long passing under the Roman wall has been constructed to accommodate the aerial feeders.

Architecture.

EVERY effort has been made to harmonise, as far as possible, the transmitting buildings and aerial towers with the graceful surroundings of the Vatican City. The transmitting building is of sober but pleasing architectural design. The tops of the masts are finished off to give a bishop's mitre effect, which greatly enhances their appearance in silhouette.

The transmitting building contains a spacious transmitting room with land-

Learning to Dance by Radio

TO learn to dance by radio—it sounds difficult, but it is not what it seems if one listens to the splendid series of talks that is being broadcast from 2YA by Mr. W. E. Priestly, of the Margaret O'Connor School of Dancing, Wellington. Mr. Priestly is recognised as one of the cleverest exponents and teachers of his art in this country and he is passing much of his valuable knowledge on to listeners in an interest-



MR. W. E. PRIESTLY, who is at present engaged at 2YA upon a series of lectures on modern ballroom dancing.
—S. P. Andrew, photo.

ing and lucid fashion. Possessing a good speaking voice, Mr. Priestly's lectures are even to non-dancers quite entertaining.

During the course of the series on modern ballroom dancing all the dances at present danced, namely, the quickstep, slow foxtrot, waltz, tango, midway rhythm and the moochi, will be dealt with, each forming a separate talk. Of these, the first three are the recognised standard dances, with the midway rhythm and the moochi as the new dances for 1931.

Speaking from 2YA, on Thursday last, Mr. Priestly dealt with the quickstep, describing in detail the movements of this dance. "Listeners were taken from step to step slowly, and no doubt many were enabled to pick up a few valuable hints."

Listeners will remember that last year the same lecturer broadcast a somewhat similar series of talks, and as a result had correspondence from not only all over this country but from Australia, from whence listeners wrote asking particulars of the new dance, the quickstep—they, of course, danced it but called it the foxtrot.

It will not only provide the Vatican City with a radio telegraph and telephone link with distant parts of the earth, but when required will also enable the voice of his Holiness the Pope to be broadcast throughout the world. The Vatican station has carried out good clear telephone communication with Australia, India, South Africa, Argentina, Canada, and the United States outside Europe, and with London, Paris, Berlin, Madrid, and other European capitals.

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line control tables, an amplifier control room, receiver room, accumulator room, machine room, valve, and general stores and general office.

A special receiver, made partly of standard parts of the normal telephone and high-speed Marconi receiver and telephone-terminal four-wire two-wire equipment, will secure good telephone and telegraph duplex communication between the Vatican City and any part of the world. This receiver is situated in one of the rooms of the transmitting station and utilises vertical antennae placed at a distance of only a few yards from the sending antennae.

The new wireless station which may be considered to represent the latest word in short-wave technique, to which such far-reaching contributions have been made by Marchese Marconi and his many able assistants, has been erected by Italian engineers under the personal supervision of Marchese Mar-

Dunedin Holds Third Radio Exhibition

Attractive Schedules Arranged



THE first of the 1931 Radio Exhibitions will open in Dunedin on Wednesday, April 22, and will continue for three days. The exhibitions organised by the Dunedin radio dealers have been, in the past, of a very successful nature, and this year every endeavour is being made to eclipse previous efforts. The exhibition is to be held in the Early Settlers' Hall, and all the principal traders will be represented by exhibits of the latest radio receiving sets and equipment generally.

The hall will be picturesquely decorated and during the duration of the exhibition Station 4YA will be located there. From a model studio in the hall the majority of the sessions and the evening concert programmes will be presented and broadcast. All the leading talent of Dunedin will contribute and some excellent programmes have been arranged for the entertainment of those attending the exhibition. These concerts will be presented in sessions, intervals being arranged so that visitors may have

the opportunity of inspecting the exhibits.

The presentation and broadcasting of concerts from a model studio is always a feature of radio exhibitions which never fails to interest visitors. This aspect is quite apart from the fact that excellent programmes of the popular type are always arranged. During the intervals of the concert at the exhibition programmes of selected recordings are broadcast from the station.

As relays are to be carried out to Christchurch, 3YA listeners will have the opportunity of enjoying all the

programmes presented during the exhibition.

The official opening of the exhibition takes place on Wednesday afternoon, April 22, at 2.30 p.m. On the other days 4YA will be on the air at 11 a.m.

Wednesday, April 22.

FOLLOWING the official opening, at 3.15, a home science talk will be broadcast. The subject to be dealt with will be "Cutting Down Clothes for the Children." The Children's Hour from 5 to 6 p.m. will be broadcast from the model studio at the exhibition. The news session will also be broadcast from the exhibition. This

session will include a talk by an officer of the Agricultural Department on "Basic Importance of Cultivation."

In the concert programme from 8 to 9 numerous choruses will be sung by the R.S.A. Choir. These will include "The Soldiers' Chorus" (from "Faust"), "Wanderer's Night Song," "Border Ballad," "Bacchanalian Chorus" and "An Evening Pastoral." A quartet from the choir will sing "Shenandoah" and "A Little Farm Well Tilled." Mr. John Leech, the well-known tenor and conductor of the R.S.A. Choir, will sing Rimsky-Korsakoff's "Song of India," a violin obbligato being played by Miss Eva Judd. Miss Judd will also play a Slavonic Dance by Dvorak. The pianist for the choir will be Mr. Chas. A. Martin, Mus.Bac., and will play two pianoforte solos.

Interspersing the vocal items will be selections by an excellent orchestra under Mr. Max Scherek. The orchestra will also contribute to the operatic portion of the evening's programme, commencing at 9.30. This will include the following choruses by Mr. Alfred Walmsley's operatic party: "The Anvil Chorus" (from "Il Trovatore"), "Barcarolle" (from "Tales of Hoffman"), "Angelus" (from "Mariana") and "Toreador Song" (from "Carmen"). At 10 o'clock will begin the dance session, to be provided by Mr. J. McCaw's Novelty Syncopators, with an admixture of Scottish humour provided by Mr. B. Brown and a piano novelty by Mr. J. Moore-Wilson.

Thursday's Programme.

THE Thursday afternoon concert will be provided by the Bristol Piano Company, and will be broadcast on relay from the exhibition by 4YA.

The evening sessions will take the form of a series of short concerts. The St. Kilda Band and a banjo band will provide the instrumental music. Mr. Wilfred Kershay, well known as the possessor of an exceptionally fine bass voice, will be accompanied by the trio in three solos: "Young Deitrich," "The Lute Player," and "She Alone Charmeth My Sadness." Miss Mae Matheson will sing two solos from "Monte Carlo." Concerted numbers will be sung by The Harmonists, their items including "Scots Wha Hae," "Annie Laurie," "The Wearing of the Green," "Off in the Stilly Night" and a number of plantation choruses.

Arrangements for Friday.

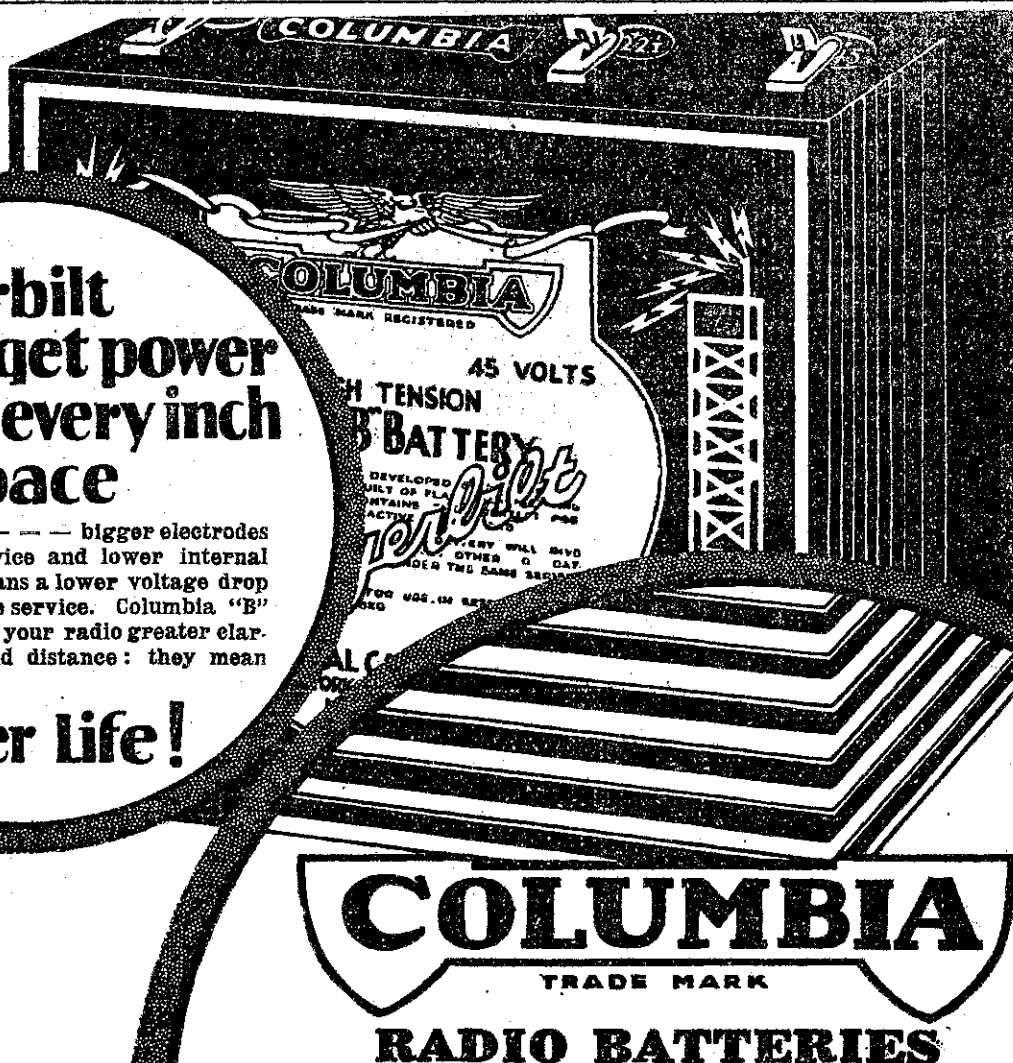
THE afternoon's programme at the exhibition will be arranged by Messrs. McCracken and Walls, and will be broadcast by 4YA.

A male voice quartet known as The Idlers will be featured on the evening's programme. They will specialise in concerted numbers. Popular vocal numbers will be contributed by Messrs. Taylor (tenor) and S. G. Angell (bass), the songs comprising "She is Far from the Land," "I Did Not Know," "The Deathless Army" and "Death of Nelson." Miss Mary Pratt, the well-known contralto, will be the only lady performer for the evening. A programme of popular numbers will be played by the saxophone band under Mr. J. McCaw.

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Who Was Shakespeare?

As the Poet Laureate, John Masefield, describes in the accompanying study of Shakespeare, little that is reliably true is known about England's greatest poet and playwright. The man's genius has utterly outlived the man.

STRATFORD-ON-AVON is cleaner, better paved, and perhaps more populous than it was in Shakespeare's time. Several streets of mean red-brick houses have been built during the last half-century. Hotels, tea rooms, refreshment rooms, and the shops where the tripper may buy things to remind him that he has been where greatness lived, give the place an air at once prosperous and parasitic.

The town contains a few comely old buildings. The Shakespeare house, a detached double dwelling, once the home of the poet's father, stands on the north side of Henley Street. A room on the first floor, at the western end, is shown to visitors as the room in which the poet was born. There is not the slightest evidence to show that he was born there. One scanty scrap of fact exists to suggest that he was born at the eastern end. The two dwellings have now been converted into one, which serves as museum. New Place, the house where Shakespeare died, was pulled down in the middle of the eighteenth century. For one museum the less let us be duly thankful.

The church in which Shakespeare, his wife, and little son are buried stands near the river. It is a beautiful building of a type common in Cotswold country.

THE church is rather larger and rather more profusely carved than most. Damp, or some mildness in the stone, has given much of the ornament a weathered look. Shakespeare is buried seventeen feet down near the north wall of the chancel. His wife is buried in another grave a few feet from him.

The country about Stratford is uninteresting, pretty and well watered. A few miles away the Cotswold hills rise. They have a bold beauty, very pleasant after the flatness of the plain. The wolds toward Stratford grow many oaks and beeches. Farther east, they are wilder and barer. Little brooks spring up among the hills. The nooks and valleys are planted with orchards. Old, grey Cotswold farmhouses, and little, grey, lovely Cotswold villages show that in Shakespeare's time the country was prosperous and alive.

It was sheep country then. The wolds were sheep walks. Life took thought for Shakespeare. She bred him, mind and bone, in a two-fold district of hill and valley, where country life was at its best and the beauty of England at its bravest. Afterward, she placed him where there was the most and the best life of his time. Work so calm as his can only have come from a happy nature, happily

fated. Life made a golden day for her golden soul. The English blessed by that soul have raised no theatre for the playing of the soul's thanksgiving.

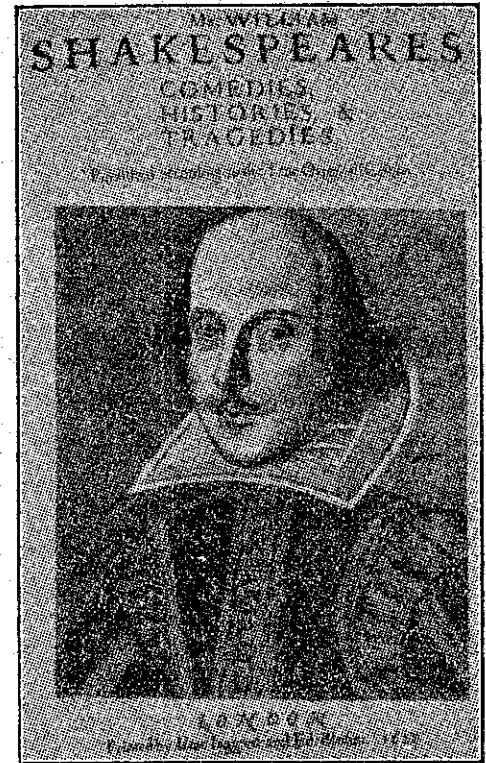
Legends about Shakespeare began to spring up in Stratford soon as there was a demand for them. Legends are a stupid man's excuse for his want of understanding. They are not evidence. Setting aside the legends, the lies, the surmises and the imputations, several uninteresting things are certainly known about him.

WE know that he was the first son and third child of John Shakespeare, a country trader settled in Stratford, and of Mary his wife; that he was baptised on April 26, 1564, and that in 1582 he got with child a woman named Anne or Agnes Hathaway, eight years older than himself. Her relatives saw to it that he married her. A daughter (Susanna) was born to him in May, 1583, less than six months after the marriage. In January, 1585, twins were born to him, a son and a daughter.

At this point he disappears. Legend, written down from a hundred to a hundred and sixty years after the event, says that he was driven out of the county for poaching, that he was a country schoolmaster, that he made a "very bitter" ballad upon a landlord, that he tramped to London, that he held horses outside the theatre doors, and that at last he was received into a theatrical company "in a very mean rank." This is all legend, not evidence. That he was a lawyer's clerk, a soldier in the Low Countries, a seaman, or a printer, as some have written books to attempt to show, is not evidence, nor legend, but wild surmise.

It is fairly certain that the company which first received him was the Earl of Leicester's company, then performing at The Theatre, in Shoreditch. The company changed its patron and its theatre several times, but Shakespeare, having been admitted to it, stayed with

In commemoration of the 315th anniversary of Shakespeare's death, a selection of his works will be broadcast from 1YA and 2YA on April 23.



The engraving by Martin Droeshout to which reference is made in the accompanying article.

it throughout his theatrical career. He acted with it at The Theatre, at the Rose and Globe Theatres, at the Court, at the Inns of Court, and possibly on many stages in the provinces. For many years he professed the quality of actor. Legend says that he acted well in what are "character parts." Soon after his entrance into the profession he began to show a talent for improving the plays of others.

Nothing interesting is known of his subsequent life, except that he wrote great poetry and made money by it. It is plain that he was a shrewd, careful, and capable man of affairs, and that he cared, as all wise men care, for rank and an honourable state. He strove with a noble industry to obtain these and succeeded. He prospered, he bought New Place at Stratford, he invested in land, in theatre shares, and in houses.

DURING the last few years of his life he retired to New Place, where he led the life of a country gentleman. He died there on April 23, 1616, aged fifty-two years.

Little is known of his human relationships. He is described as "gentle." Had he been not gentle we should know more of him. Ben Jonson "loved the man," and says that "he was, indeed, honest and of an open and free nature." John Webster speaks of his "right happy and copious industry." An actor who wrote more than thirty plays during twenty years of rehearsing, acting, and theatre management can have had little time for mixing with the world.

That we know little of his human relationships is one of the blessed facts about him. That we conjecture much is the penalty a

nation pays for failing to know her genius when he appears.

Three portraits—a bust, an engraving, and a painting—have some claim to be considered as genuine portraits of Shakespeare. The first of these is the coloured half-length bust on the chancel wall in Stratford Church. This was made by one Gerard Janssen, a stonemason of some repute. It was placed in the church within seven years of the poet's death. It is a crude work of art; but it shows plainly that the artist had before him (in vision or in the flesh) a man of unusual vivacity of mind. The face is that of an aloof and sunny spirit, full of energy and effectiveness.

Another portrait is that engraved for the title page of the first folio, published in 1623. The engraving is by Martin Droeshout, who was fifteen years old when Shakespeare died, and (perhaps) about twenty-two when he made the engraving. It is a crude work of art, but it shows that the artist had before him the representation of an unusual man.

It is possible that the representation from which he engraved his plate was a painting on panel, now at Stratford. This painting (discovered in 1840) is now called "the Droeshout portrait." It is supposed to represent the Shakespeare of the year 1609. In the absence of proof, all that can be said of it is that it is certainly a work of the early seventeenth century, and that it looks as though it were the original of the engraving.

There are, unfortunately, many graven images of Shakespeare. There are, perhaps, passable portraits of the languid, half-witted, hydrocephalic

Over the Pacific The Voice of 2YA

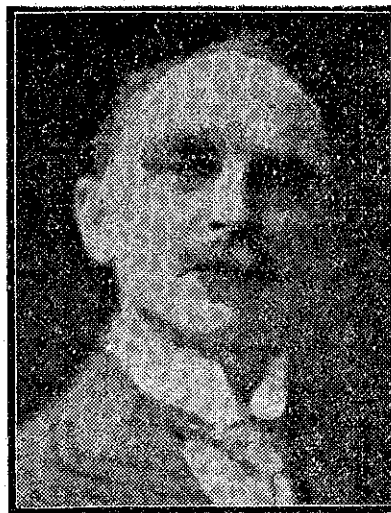
IN a series of talks on a tour of the South Pacific, which has been contributed by Mr. Charles E. Wheeler to the international programme of Wednesday nights at 2YA, the lecturer mentioned that while Suva has been called the cross-road of the Pacific in the sense of cable communications, there has been an even greater development of late years.

Wireless is now to be heard in all directions in that great expanse of the ocean. Suva has a powerful station, and the New Zealand Administration in Western Samoa operates its radio station, which is in constant touch with the commercial radio station on Tinakori Hills, Wellington. The Tongan Government has linked up three of the principal islands by wireless, its stations, run by Tongans, being situated at the capital of Nukunono, at Haapai, and at the most northern extremity of the group, Vavau. But even more interesting to his hearers, he thought, would be the information that 2YA sent out a wonderfully clear message throughout the South Pacific, and it was the most popular station among Island listeners-in. He had heard 2YA at

creatures who made them. As representations of a bustling, brilliant, profound, vivacious being, alive to the finger tips, and quick with an energy never since granted to man, they are as false as water.

—From "William Shakespeare," by John Masfield.

sea off Fiji, Tonga and Samoa, and he could assure his hearers that the celebrated "Good-night" stretched all



MR. C. E. WHEELER.

the way out from Wellington to the Equator.

"For Better Radio" Timaru Radio Club

WITH a view to creating better radio conditions by aiding in tracking interference, a Radio Club has been formed in Timaru. It is the intention of the club to give lectures and instruct amateurs and interested set owners who wish to further their

All-Wave and Short-Wave Receivers

THE number of commercial all-wave and short-wave receivers in use in New Zealand is increasing very rapidly. About twelve months ago there were perhaps no more than four, but now there are at least ten different makes, many of which are a.c. operated. Of the electric models there are the "Ultimate," the "Gulbransen," the "Atwater-Kent," the "Philips," the "Silver Marshall" and the "Pilot a.c. Super Wasp."

A full report of the "Ultimate" appeared a short time ago, and we are now testing a "Gulbransen" combination. This employs a super heterodyne adaptor, and, from our preliminary tests, it would appear that this would be a very satisfactory set. Atwater-Kent provide an adaptor for their ordinary sets. Of the battery models, the "Courier," "Ultimate," "Philips," "Mack's Add-a-phone," "Meniwave," "Pilot d.c. Super Wasp" are perhaps best known. Most of these are designed to operate economically from "A" cells.

knowledge of radio. The annual subscription to commence with is only 2/6 per annum. Meetings will be advertised in the local newspaper.

The slogan of the club is "For Better Radio."

The 1931 "Radio Guide" is now available.

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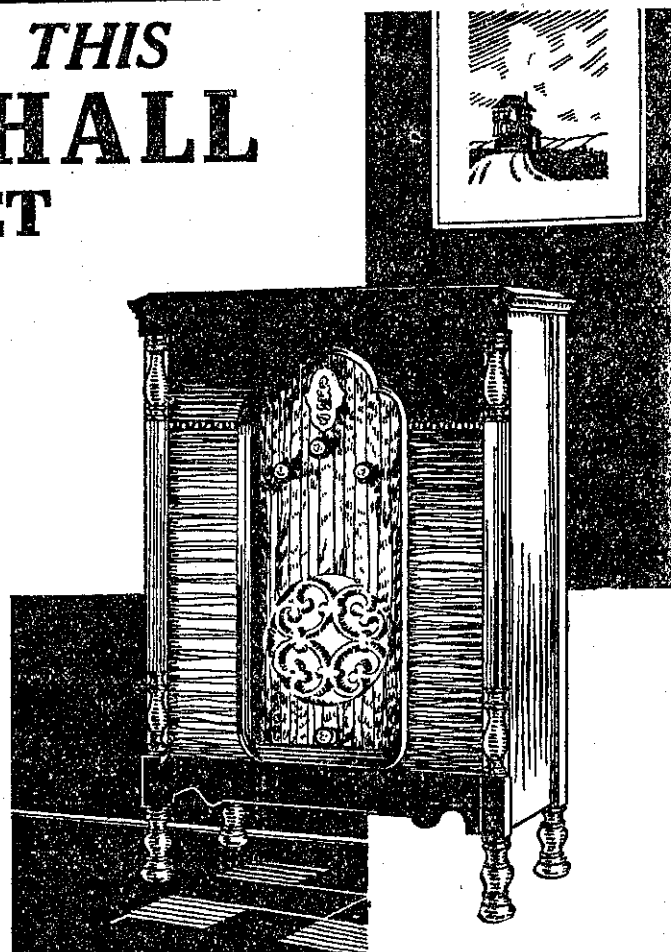
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Identification Wanted

STATION heard about 6.20 p.m. on March 31 approx. 1 deg. below 22L, broadcasting a Japanese programme. Announcements were made in English. Static prevented my hearing the call before 22L came on the air, when they drowned the former station.—"Morepork" (Ohakune Junction).

STATION on approximately 600 m. (1500 k.c.), heard at about 8 p.m. on April 4. He was calling, "Hollo, hallo, hallo, Radio Guiana (?) calling Glade House." He also mentioned Awarua and Wellington. Strength R7, with rapid fade. I held him for 20 minutes, during which time he announced the names of several people, made mention of the weather and intimated that he would call "Glade House" at 10 p.m.—"Quel qu'un" (Carterton). [Yes, your log is quite a fair one.—Ed.]

STATION calling "Glade House" at 7.30 p.m. on April 3. Wavelength 200 m. (1500 k.c.). He mentioned a "Mr. Fox, of 44 Cuba Street, Petone." I could distinctly hear a noise like a circular saw.—J.V.D. (Cambridge).

SEVERAL nights in succession I have logged a station, evidently a Jap. on 590 k.c. (508 m.). I cannot find one on this frequency in the latest call book.—"Ood" (Hawke's Bay).

INDIAN station operating on 353 m. (850 k.c.). Music and speech were coming in well after midnight on April 3 and 5. Although I listened to them for over three hours their call was not given in English.—R.A.S. (Mamaku).

AT 2 a.m. on April 5, station heard on 3AR, Melbourne's, frequency broadcasting a description of a boxing match. Also foreign music on 2BL's frequency.—J.P. (Waihi).

STATION broadcasting an organ solo at 7.59 p.m. on April 8 on 900 k.c. (333 m.). Another heard at 8.30 p.m. operating on 780 k.c. (384 m.). Heard the following: "KPL, operating on a carrier frequency of 780 k.c. (384 m.), closing down." Gave the studio time as 20 minutes (or seconds) to 1 a.m. and bade listeners adieu till 6 a.m.—"Oscar" (Marton).

STATION operating on 1550 k.c. (200 m.) at 9.10 p.m. on April 8. A player-piano solo, "When I'm Looking at You," followed by an orchestral selection, "Hearts and Flowers," was heard. Call was given, but was spoilt by mushiness and fading.—E.W. (Sansons).

B. W. (Stratford): YK3KU, Ronald A. Hipwell, Campbell Street, Swan Hill, Vic. J.P.C. (P.N.): Thanks for information re KZRM. I heard his call several times on the 8th, when they were relaying from the Grand Opera House, Manila. G.C.H. (Masterston): I often hear 2ME on 1500 k.c. (200 m.) talking to ships at sea.—N.J. (Masterston).

ON April 8 an American, approximately 210 metres (1430 k.c.), at 11 p.m. Dance music. Station 2HD is two degrees above. I, too, heard the same foreign station as W.B. (Linwood) on 2BL's frequency. Signals R4.—"Bob" (Wellington).

Stations Identified

STATION heterodyning 2FC late at night is a Japanese. I have heard three calls from him, but the one repeat-

ed most often is JOLK.—C.E.M. (Auckland).

FULL address of WENR, Chicago, is: "The Voice of Service, Great Lakes Broadcasting Company, 20 North Wacker Drive, Chicago, Illinois." I have also received a verification from VK2NC, an Australian Broadcasting Company relay station. It is owned and operated by the P.M.G.'s Department, and is situated approximately 14 miles from Newcastle. It transmits on 1245kc. (241m.), and is crystal controlled. Power rated as input to the final stage is 6 kw., corresponding to 2 kw. unmodulated carrier power in the aerial. Transmitter is capable of 100 per cent. modulation, which is carried out at low power.—"Red Bird" (Wellington).

B. W. (Stratford): Station on 2BL's frequency, which I stated, was the Bombay station. I find on closer investigation to be the station referred to by W.B. (Linwood). I heard him on March 30, April 2 and 3, and again on the 5th. It is, as W.B. states, Radio Bangkok, and is situated in Siam. His signal is a series of strokes on a beautifully toned gong, arranged as a small scale, 3 up, 1 down, and 2 up. The station must be a recently completed one. He can be heard almost any night after 2BL has closed down. I heard the Bombay station at 4 a.m. recently 1½ degrees higher. "Dud" (Bay of Plenty): There is no 3GO, Melbourne, and the other is 2MV, Mossvale. "Cromdale" (Otago): I think you will find KSTP, St. Paul, Minnesota, is the correct call for station on 1460 k.c. (205 m.).—J.P.C. (P.N.).

D. McL. (Wellington): Station heard at 2 a.m., March 22, was the experimental station 3BE, Ellwood. It often operates on 2NC's frequency. Just prior to the above time was broadcasting "When It's Springtime in the Rockies." A few degrees higher up, 3BY, Melbourne, 24.8 metres, approximately (1210 k.c.), was also putting over items.—E.J.H. (Aranui).

W. B. (Linwood): Station on April 3 was 3KZ, not 3ZZ, Melbourne. Regarding station on 2BL's wavelength, this is the first time I have seen Radio Bangkok reported on the broadcast band. Bangkok is in Siam, approximately 5400 miles from Wellington. Although I have searched through several of the latest call books I have been unable to find any station in Bangkok on 350 metres (2BL's frequency).—"Static" (Nelson).

AT 6.40 p.m. on April 2, "Dancing with Tears in My Eyes" was broadcast by a station on 1330kc. (225m.), not 12L Auckland. Reception was surging and distorted. Station closed down at 7 p.m., no call being given.—"Oscar" (Marton).

ON April 2, a Japanese station was heard broadcasting a European concert at 11.50 p.m. The station was operating on 790kc., near 40G Brisbane. A choir sang "Kilharney," apparently in Japanese. Another station heard at midnight on approximately 600kc. (500m.). Lady was speaking in French. Station heard closing down at 3.35 a.m., on the 6th, operating on 1250kc. (240m.). "KM" was a portion of the call. Station on approximately 820kc. (366m.) heard at 3.40 a.m., on 3LO's frequency. Would this be Chinese? On March 29 I heard a station on dial reading 2 call 2ME Sydney. "Hallow, BJMK," was often called. "Hollo, Kalara," was also called, almost

continuously. Then, "Your position received O.K."—A.M. (Dunedin). [Names of commercial receivers must not be used as noms de plume.—Ed.]

DX Topics

Seldom-Heard VK's.

N. J. (Masterston): I was listening to N. 3EF, Ellwood, about 1 a.m. on March 30, when he remarked that owing to the expense of sending verification cards, reports would be acknowledged over the air only. The following VK's were also logged the same morning; 3KU, 1292 kc. (232m.); 7LJ, 1250 kc. (240m.); 3BH, 1295 kc. (231.5m.); and another on 1190 kc. (252m.), whose call, I think, was VK3CJ.—"Ray Dio" (Shannon).

Particulars of WJDX.

WHEN KDKA comes on the air on 980 kc. (306m.), with a power of 400 kw., DX'ers will find it necessary to equip themselves with crystal sets to make reception of him bearable. Latest loggings are WFAA, Dallas, Texas, and WKBF, Indianapolis, Indiana. The latter I heard on March 27 on a test programme. After each musical number reports were asked for. I recently received a verification from WJDX, "The Voice of Mississippi." The studio is situated on the 11th floor of the Lamar Life Insurance Co. Building, in Jackson, Miss. Transmitter is located 7½ miles north of Jackson, and operates on 1270 kc. (236 metres), with a power of 1kw. It is crystal controlled.—"Seven Kicker" (Okoroire Springs).

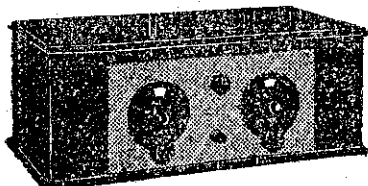
Australian Loggings.

RAY DIO (Shannon) and others: Aussie station on 265 metres (1130 k.c.) is the new transmitter of 4BC, Brisbane, situated at Oxley, six miles out of Brisbane on the Brisbane-Ipswich road. A.W.A. erected the station and the masts are 160ft. high. It is a much better station now than when it was on 233 metres (1290 k.c.). Is it possible to have a list of the Australian experimental stations published in the "Radio Record"? There is a new Australian station just above 3DB. According to the latest list of Australian stations this should be 4MK, Mackay, on 252 metres (1190 k.c.). I notice 3DB is down on 250 metres now instead of 255 metres. My latest logging is KCBT, Ketchikan, Alaska, 333 metres (900 k.c.).—R.J.H. (P.N.).

[Such a list would be difficult to obtain and still more difficult to keep up to date.—Ed.]



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Price of Kit, with full instructions and diagrams for construction,

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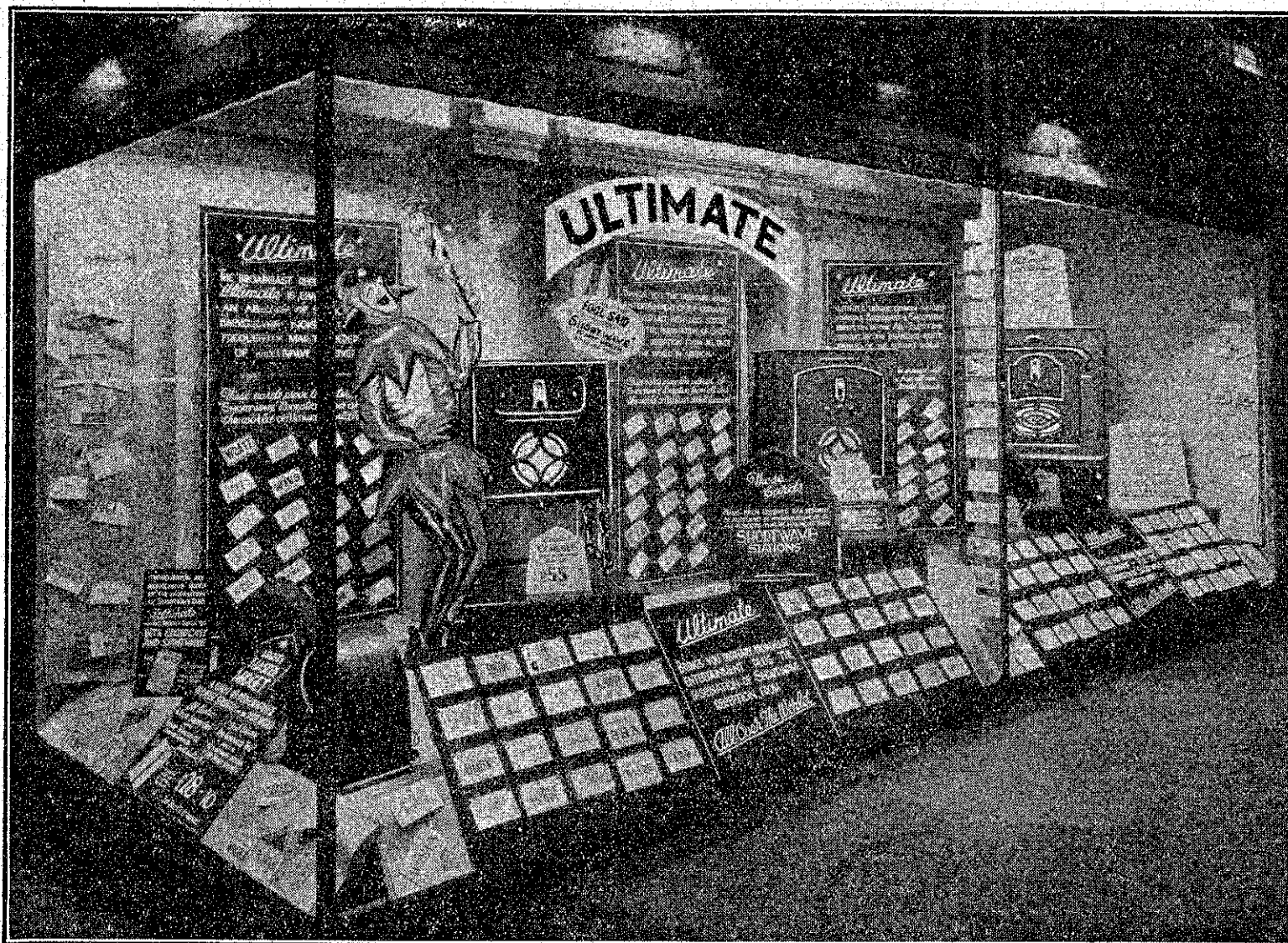
Purchase a Lissen Screen-Grid Three Kit Set from your nearest radio dealer, and in two or three hours you can build a receiver that anyone would be proud to own.

It costs so little, and is so easy to assemble, yet its results will give you reception to rival ANY set. New Zealand, Australia, and Japan can be received with wonderful strength and volume on the loud speaker.

See your radio dealer to-day, and get full particulars. If you have any difficulty write to the

New Zealand Distributors: **ABEL, SMEETON LTD.** 27-29, Customs St. E., AUCKLAND.

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An effective window display, setting out the models of a popular radio set.

AND THE FOOL in His Folly SAID, *"Shortwave Is Not Worth Bothering About"*

Although the above interesting and effective display of **ULTIMATE** Radio Receivers was made at the very end of last season, the result obtained in sales was simply remarkable. This illustrates the necessity of dealers telling the public, and showing in a striking manner, the merits of their goods.

Very few of the average public realise the wonders of shortwave telephony, and when statements are made that hundreds of overseas stations can be heard on shortwave they are liable to discount such statements as being over-enthusiasm on the part of the dealer.

This dealer did not ask his prospective buyers to accept his statement in this connection; he displayed 600 acknowledgement cards, received by an owner of an **ULTIMATE** Receiver, from every part of the Globe verifying the reception on his **ULTIMATE** Receiver of the telephony and telegraphy transmissions acknowledged.

When a listener hears a programme and receives the call sign and correct location of the station, he writes to that broadcasting station advising the time of his reception, some items on the programme, and if this is correctly received, that broadcasting station sends an acknowledgement card.

There are not only a great number of shortwave stations transmitting music and other programmes, but there are thousands of Morse transmitting stations throughout the world which can be heard.

The **ULTIMATE** offers tremendous scope for the education of young people who will interest themselves in wireless telegraphy. A very short study of the Morse code and wireless telegraphy will enable the owner of an **ULTIMATE** Receiver to read messages from every part of the world, besides ships at sea.

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Anyone interested in learning more about shortwave should communicate with P.O. Box 1778, Auckland, requesting leaflet "What is Shortwave?" which will be sent FREE * * *

Should Debates be Broadcast ?

What Does "Controversial" Mean?



THE two words "controversial" and "propaganda" led to an imposing deputation waiting upon the Postmaster-General last week, seeking either definition or an amelioration of the regulations which operate, they claim, to unduly limit the subjects which may be dealt with in broadcast debates.

In introducing the deputation, Mr. E. J. Howard, M.P. for Christchurch South, said that the bodies represented included the Canterbury Broadcasting Debates Committee, the Canterbury College Dialectic Society, the Victoria College Debating Society, No More War Movement, W.C.T.U., League of Nations Union, Y.M.C.A., Pacific Relations Group, the National Peace Coun-

cil, and W.E.A. Their complaint was that too strict a definition was placed on the word "propaganda."

Mr. E. K. Cook, representing the Canterbury Broadcasting Debates Committee and the Canterbury College Dialectic Society, said that there were 1000 students at Canterbury College and 900 at Victoria College, and all were keenly interested in the subjects to be broadcasted. Whenever they had approached the Broadcasting Company they had had difficulty of the interpretation of "propaganda of a controversial nature." His society had endeavoured to arrange debates with the W.E.A. on educational and vital topics in economics and politics, and had been excluded from broadcasting them. In these debates both sides of the subject would be placed before the audiences and no harm could be done. If the word "controversial" was interpreted as it was at present it would exclude practically all educational subjects.

In Great Britain debates were a regular feature of the broadcasting services. It was hoped that, if the debates were contrary to the present regulations, the regulations would be amended.

Mrs. E. Maslem, secretary of the Wellington Centre of the W.E.A., said that the debates would be most informative to the general public. She gave an outline of the work that was being done in England.

Mr. H. F. von Haast, representing the Pacific Relations Group, said he had heard a broadcast debate in England between Sir Ernest Benn and Mr. J. Maxton on Socialism, and it had been most informative.

The Word "Controversial"

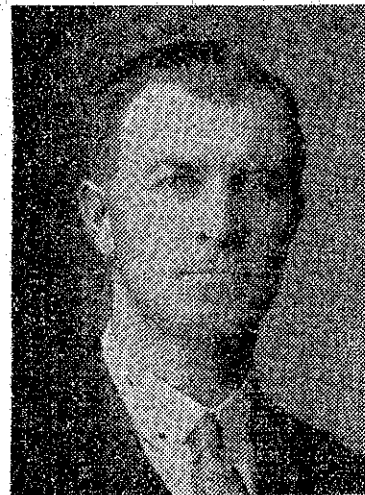
MR. H. R. BANNISTER, representing the Victoria College Debating Society, said that under the present interpretation of the regulations it was practically impossible to choose a subject that was of public interest. It was possible to so stretch the meaning of the word "controversial" so as to include practically every topic. He took it that the regulations really aimed at preventing any society or person putting over the air propaganda which would be subversive of the "peace and order of the Government of the Dominion," but in a debate both sides would be strongly put. Victoria College had endeavoured to arrange a debate with Auckland, but the arrangements fell through because the subject had been vetoed.

Mr. Donald: "What was the subject?"

Mr. Bannister: "The Hire-purchasing System." A subject like "Is Democracy a Failure?" would be highly controversial, but it would be discussed from all angles. His society would be very reluctant to offend the susceptibilities of listeners.

Regulations Under Review.

IN reply, the Minister said that the contentions made by the deputation were to a certain extent news to him,



2YA listeners will welcome the opportunity of again hearing Mr. Rex Harrison (baritone), well known throughout New Zealand and Australia as a performer on the concert platform and before the microphone. When in Sydney he was one of the most popular of broadcasting artists, and in an open competition he won first prize. His voice is a pure baritone, his enunciation is perfect, and he has thoroughly mastered microphone technique.

Mr. Harrison has a large repertoire. His recital on Friday evening will include two songs from Amy Woodforde-Finden's "Indian Love Lyrics"—"The Temple Bells" and "Less Than the Dust." He will also sing "Invictus" and "Nelson's Gone A'Sailing," to both of which there will be an orchestral accompaniment.

He could understand the position of the Broadcasting Company, which was a private company, and which would try and keep within the regulations. It was possible that it might shelter behind the Government, which was a good stick to lean upon. He could not give them an answer immediately, but would consult with his officers and give them a reply within the next few days. He would like himself to hear some of the subjects mentioned this morning discussed.

"THE new broadcasting regulations are under review," continued Mr. Donald, "and we hope to have them out, not before the end of this session, but probably by the time next session comes round. You are all aware that it has been suggested that we are to have alterations in broadcasting next year. A good deal of money has been

required for earthquake relief, and the department may have to moderate the scheme, but there will be an alteration in the broadcasting services from the beginning of next year. We certainly want to make the service as pleasant as possible for listeners, and at the same time educational, so that if the majority of the subjects mentioned can go over the air, it will be a good thing for the general public. The whole matter will receive the consideration it deserves."

What Britain Does With Controversial Matter.

FOLLOWING is the official summary of the B.B.C.'s present powers and practice in regard to controversy:—

"Beginning in 1923, the B.B.C. made repeated attempts to secure authority to introduce controversial subjects. But the rule against controversy was maintained both under the company and for the first year of the corporation. During the regime of the company, the Post Office exercised an over-riding censorship of subject and material. Arising out of the recommendations of the Crawford Committee on broadcasting, the Government, in licensing the corporation at the end of 1926, decided to transfer censorship functions from the Post Office to the corporation for an experimental period. But the prohibition of political, industrial, and religious controversy was to be maintained. Apparently the intention of the Government was to test the discretion of the new authority. Six months was the duration of the experimental period originally contemplated. This, however, was extended to fourteen months. Meanwhile the B.B.C. lost no opportunity of emphasising the view that controversial matter should be admitted. Some debates were organised, but the limitations necessarily imposed irritated both the speakers and the listening public. The situation became acute when a series of "debates and counter-debates," organised in co-operation with King Edward's Hospital Fund for London, had to be abandoned before completion. There followed a period of violent Press attacks, most of which were directed unfairly against the B.B.C. These attacks subsided when it became generally realised that the B.B.C. did not agree with the policy of restriction which it was reluctantly applying. It should be noted, however, that the violence of the Press discussion was not discovered to reflect any widespread or deep interest in the subject. On the contrary, the general body of listeners was apathetic.

Restrictions Removed.

LATE in February, 1928, the Government reconsidered the position and decided to remove the restrictions. On March 5 the Prime Minister gave the following reply to a question from Captain Ian Fraser, M.P.:—

"The Government have reviewed the decision taken at the time of the constitution of the British Broadcasting



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Corporation, under which the corporation has been prohibited from broadcasting—(a) Expressions of opinion by the corporation on matters of public policy, and (b) statements involving matters of political, religious, or industrial controversy. The Government have decided that the first of these prohibitions, i.e., that on the issue of 'editorial' pronouncements, must be maintained; but that the second shall be withdrawn forthwith. The corporation has been informed that the Government expect it to use the discretionary power thus experimentally entrusted to it strictly in accordance with the spirit of the Crawford Committee's Report, and that it is its responsibility to see that this is done."

On the same day the Postmaster-General sent to the B.B.C. a formal communication elaborating the Prime Minister's statement and making the following comment:—

"The prohibition has now been in operation for fourteen months, and the Postmaster-General desires me to convey to the Governors his appreciation of the loyal and punctilious manner in which they have conformed to the obligations thereby imposed."

The effect of the Prime Minister's announcement was to give the B.B.C. freedom to develop controversial subjects in an experimental way in accordance with the spirit of the Report of the Crawford Committee. It is pertinent, therefore, to refer to this report, of which the relevant passage reads:—

"We are unable to lay down a precise line of policy or to assess the degree to which argument can be safely transmitted. In the absence of authoritative evidence, such advice would be premature. But, speaking generally, we believe that if the material be of high quality, not too lengthy or insistent, and distributed with scrupulous fairness, licensees will desire a moderate amount of controversy. But the discretion of the new authority must be upheld. Provided the Commission is strong and impartial, it will gradually assess the nature and extent of the demand; in this and in other problems to be solved the Commissioners will do well at the outset to act with firm and consistent circumspection."

"The broadcasting of Parliamentary speeches, although parallel, raised a different group of issues, on which we do not feel authorised to offer an opinion."

The B.B.C. Policy.

AN attitude of "firm and consistent circumspection" was entirely in accord with the policy of the Corporation in taking advantage of the Government's concession. It was decided to begin by the gradual and experimental introduction of political and economic

controversy on clearly defined occasions with adequate safeguards for impartiality and equality of treatment. It will be observed that there was no change in the policy of the Corporation on matters of religion. Controversial matter was to be limited to the fields of politics and economics. Moreover, subjects were to be dealt with in such a way that the main opposing views could be presented on occasions clearly contrasted yet linked as closely as possible. The obvious, and perhaps the most attractive, form of presenting controversy is by way of debates. It was natural, therefore, that broadcast debates should be

To Constructors

We believe that, pending the arrival of further shipments, a scarcity of .001 semi-variable condensers (of the Formo-densor type) exists. This is one of the components of the "Knife-edge Rejector," a highly efficient wavetraps described in the "1931 Radio Listeners' Guide and Callbook." For the information of readers who wish to build this wavetraps without delay, an ordinary .001 variable condenser may be substituted for the semi-variable type. The former, however, is dearer and more bulky.

resumed now that the irritating restrictions had been removed. Care had to be exercised first of all in the selection and wording of subjects, so that there might be some inherent equality in the contending opinions. It was also of importance that the debaters should be well matched.

"Discussions" provided an effective alternative form for the presentation of controversial views. A "discussion" in this sense is a kind of symposium. The various challenging and opposing points of view on a controversial subject are expounded in prepared statements in sequence, but emanating if necessary from widely separated parts of the country.

The Corporation is fully alive to the considerable possibilities of the development of controversy in programmes. It is felt that this new phase of the work should produce cumulative results, not only by informing public opinion on politics and economics, but also by establishing a new and intimate contact between political leaders and voters. It should not be presumed, however, that this development involves any revolutionary or transcending change in programmes generally. Controversy is not to dominate the talks. For the most part they

Shakespeare Anniversary

(Continued from page 3.)

The next excerpt for presentation is the well-known "Brawl Scene," from "Romeo and Juliet."

The scene is a public place on a bright, hot, summer day. Mercutio and Benvolio, two members of the House of Montague, which is at deadly enmity with that of Capulet, enter, followed by a page and servant. Mercutio is a dashing, care-free gallant, seemingly never happy unless engaged in a brawl.

When Tybalt, of the rival house of Capulet, appears on the scene with several followers, Mercutio provokes the newcomer to draw and fight. Then Romeo, a Montague, appears and steps between the duellists to separate them. Tybalt seizes his opportunity and under Romeo's arm stabs his opponent mortally. The latter is assisted to a nearby house, but expires in a few minutes. Benvolio has just acquainted Romeo of this when Tybalt returns, and in a fit of rage Romeo forces him to draw and kills him. The Prince, however, who has banned public brawling under pain of death, is seen approaching, and Romeo, aghast at what he has done, is forced to flee for his life.

THE next excerpt is the famous balcony scene from "Romeo and Juliet"—often referred to as the "Holy Scene." It takes place in the garden of the Capulets, below the balcony of Juliet's room. Romeo, who has crept into the enemy's garden under cover of night, is revealed making love to Juliet. The fact that they are members of rival houses troubles the lovers, and Juliet suggests a way out of the difficulty:

"O Romeo, Romeo; Wherefore art thou Romeo?
Deny thy father and refuse thy name;
Or, if thou wilt not, be but sworn my love,
And I'll no longer be a Capulet."

THE fourth and last excerpt for presentation introduces the well-known "Dagger Scene" from "Macbeth." It includes both the contemplation

will continue as before, endeavouring to interpret the vast field of interest and knowledge which is happily beyond the frontiers of acute current partisanship.

tion of the murder of Duncan and the murder itself.

This scene has been arranged for two performers only, and will be enacted by Madge Thomas and John Storr. It is worthy of mention here that in the last competitions held in Wellington the open dialogue section was won by these two artists, presenting this scene.

It runs as follows:—Macbeth, ambitious, but without the courage of his convictions, conceives the idea of murdering Duncan, King of Scotland, and usurping his throne. He confides his evil intentions to Lady Macbeth, and she eggs him on to the completion of the deed.

There is much moral cowardice in Macbeth's nature, however. He is prone to superstitious fears, and they so work upon him that he relents from his purposes and requires to be spurred to "prick the sides of his intent" before he will attempt to achieve that which will lead to the satisfying of his ambitions. He tries to back out, alleging for his reasons that Duncan "of late hath honoured him."

Throughout this scene the sharp taunts of his stronger-willed partner once more rekindle the fierce desire, which, beneath Lady Macbeth's lash, burns with such vigour that he irrevocably decides to slay his kinsman and his king. And so the deed is done.

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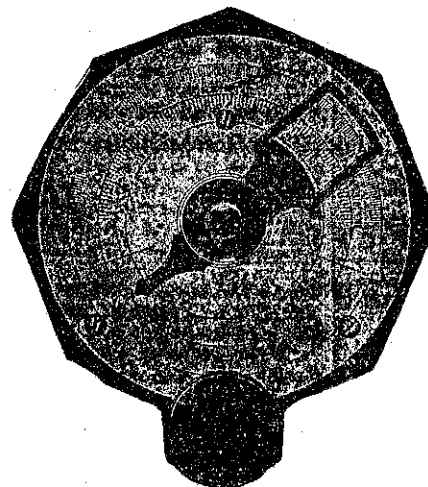
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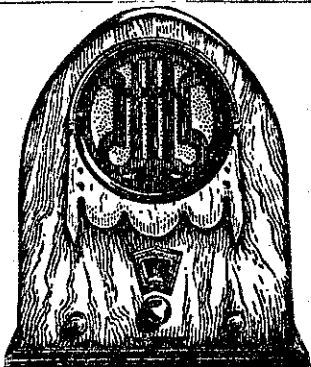
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Matter and the Universe

The bewildering vastness of space is a fascinating study, if a little awe-inspiring. In the following article, broadcast as a W.E.A. talk from 2YA by Professor P. W. Robertson, Professor of Chemistry at Victoria University, is outlined a lucid conception of space according to modern theories.



WITHIN quite recent times much attention has been directed to the nature of the universe. We find not only scientists but also philosophers and divines attempting to arrive at a solution pleasing to all.

In the pages of the popular press, and noticeably in the Sunday papers, usually devoted to the foibles and vagaries of mankind, there have been long articles attempting to reconcile science and religion, explain the nature of life, and define our position in the universe. The frequent occurrence of radio talks by the British Broadcasting Company on these and kindred topics is further evidence of the general interest, and a book by Sir James Jeans, "The Mysterious Universe," containing much deep speculation, has proved a best seller. Authorities in every branch of knowledge have joined the man in the street in its praise. A well-known comedy actress confessed that she had not missed a single word of it, and that it contained things every girl should know.

Now, there are probably various reasons for this exceptional interest in matters apparently so remote from everyday life. Two of these I shall indicate.

Since the Great War man has found himself intellectually in a much less stable world than heretofore. Institutions which he regarded as permanent have tottered, ideas such as that of democracy seem to have lost their value, economic laws fail in their action. What wonder, then, that we should attempt to gain solace by imagining ourselves in a universe which worked by a definite plan, whether mathematical or divine?

Another reason would seem to be this: The world-famous physicist Einstein has proved, apparently conclusively, that space is curved. As a direct consequence we must regard our universe as finite—immensely large. It is true—but how satisfying is that compared with the awful thought of a hostile infinity.

The Origin of Matter.

BEFORE we proceed to a consideration of the nature of the universe, a brief account will first be given of matter and its origin.

At the very beginning was space—at least so much need be postulated. Now, a peculiar and inherent property of space is that it demands the existence of protons, positive units of electricity, and electrons, the corresponding negative units. It has happened that these gradually united to atoms of hydrogen, the lightest of the elements. Then these hydrogen atoms in the course of time conglomerated to immense balls of fire—stars, like our own sun.

As the suns aged they became smaller in size and lower in temperature, and at the same time their hydrogen con-

densed to heavier atoms, in the first place helium, then elements such as carbon, oxygen, silicon, and later the metals such as iron. The process has not been uniform because we find certain stars, the hottest, containing hydrogen and helium, and others, relatively cooler, like our own sun, made up of many elements. How then, we now ask, came our earth and the planets into being?

Here we must make reference to the theory of indeterminacy. A law of causality was formerly thought to rule natural phenomena, that is, with a perfect knowledge of scientific data, any result could be accurately foretold. Apparently this is not always so.

Formation of the Earth.

ALTHOUGH analogies make a dangerous way to the finding of truth, I shall nevertheless give one here.

If all the inhabitants of Wellington divided into groups of four and dealt themselves continuously hands of bridge, sooner or later at one table there would be found dealt four hands, each containing one suit only. This might happen the very first time or it might not happen for years—but what we can determine is this, that if play continued for, say, a million centuries, exactly so many of this type of hand would be obtained.

By some law, then, or principle of indeterminacy, our earth was formed. There was less chance of its taking place, as it did, than you might have of sitting down and dealing yourself a hundred consecutive hands of bridge, each with the four suits equally divided. I shall now attempt to indicate how it happened.

The stars, although they appear in the sky to be packed closely together, are relatively removed from one another by enormous distances. If we imagine a space the volume of our earth, and in it equally distributed half a dozen balls about a foot in diameter, these would represent the size and relative distances apart of the stars.

That any two of them should come into contact is an almost inconceivable possibility. Yet once a star must have approached so near our sun that great

fragments of it were swept off and made into the planets. This occurred at an astronomical time interval when the sun was of moderate age. If the collision had been earlier in its life the planets would have been balls of dissipating gas, if later, masses of metal.

Our earth was formed at a time when the element carbon was a significant unit in the sun, and on this unique element carbon, life as we know it depends. For carbon has the special property among elements of being able to form extremely complicated compounds, limitless in variety, and on the existence and interactions of these the complex life processes depend. Furthermore, the general temperature of our earth on its surface is favourable for these compounds; not only that, but also for them to react at a rate commensurate with a life-process.

If the average temperature were much lower, the rhythm of life would be unutterably slothful: if the temperature were much higher, such delicate compounds would not be capable of existence, and all the subtlety of life would be lost. We can say with assurance that life in any way comparable with ours does not exist other than on the earth.

The Enormity of Space.

MAN, then, is only a brief accident in the universe, which he regards for a moment and then disappears, not, however, without noting his utter insignificance.

When we look up into the summer night we see the delicate maze of the stars, and flung across them like a great scarf, the Milky Way. This merely is the light from an enormous cluster of distant stars which we cannot see separately, and it represents approximately the limits of the star system, or nebula, of which our sun is a unit.

In general shape it has been likened to a great wheel with most of the stars in the rim (the Milky Way), and the other stars distributed in spoke-like fashion. Our own sun happens to be toward the centre of the whole system. The dimensions of our nebula, although enormously great, can be ascertained

with fair accuracy, but to give you the figure, say, of its extent would be merely confusing.

The Curved Space of Einstein.

NOW, in the sky not only can we see planets and stars, and the Milky Way, but also less definite points of light, which are due to distant nebulae, comparable in magnitude, although generally smaller than ours.

The nearer of these are many times further off than the furthest stars in the Milky Way, and the more remote ones are so far distant that the light which we see from them set out on its journey to us actually at a time before life of any sort had appeared on the earth.

Beyond these are other nebulae, still more distant, as yet not within the reach of our most powerful telescopes. But if we could see them, we should find that their light approached us in two exactly opposite directions, for space is curved. What this implies I shall now attempt to convey to you.

Imagine a soap bubble the size of the room in which you are, and let a tiny point of red in the film represent our own star system. Near it, a few feet away, let there be other points of red. These would correspond with the size and relative position of the nearer nebulae, and you can imagine the further ones distributed over the surface.

Now note particularly that space is inside and without, the answer is simply nothing, non-space. This apparently unwarranted statement we must accept, for its complete understanding requires special mathematical knowledge.

This, then, is our Universe, no longer mysterious. If it is a universe of thought, its creation was an act of thought; but it must have been one of mathematical thought, one regardless of morality and beauty, which would become then just the playful invention of man in his less clear moments of mathematical abstraction.

Man has reduced space to the limits of a tiny bubble in one of the cells of his brain. Time he can estimate with precision when he relates that the life of his kind on earth is but a single tick of the astronomical clock. In vain to seek consolation with his mate in the soft beauty of a summer night! When the rays of that nebula above the tree-top set out to deliver their warning to him, life on this earth had not begun. By identical token, when the light from our own Milky Way can reach thus far, all life will have ceased.

Yet we are unwilling to believe that the spirit of man is destructible—that he will not live to tell a profounder tale.

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Evolution

Tides in the ocean of stars and the infinite rhythm of space;

Cycles on cycles of aeons adrone on an infinite beach;

Pause and recession and flow, and each atom of dust in its place

In the pulse of eternal becoming; no error, no breach,

But the calm and the sweep, and the swing of the leisurely measureless roll

Of the absolute cause, the unwhitened effect—and no haste,

And no discord, and nothing untimed in a calculus ruling the whole;

Unfolding, evolving; accretion, attrition; no waste.

From "Om," by TALBOT MUNDY.

C.S. (Wellington): See the series of articles which ran in the "Radio Record" a short time back. They are called "Breaking into the Amateur Game," and deal very fully with the questions you raise.

I HAVE a five-valve American set. What is the best combination of valves?

A.: Four 221 type and one 605 type high gain power valve.

2. I enclose a diagram, which is the most likely to be the detector?

A.: The one in the right rear of the ganged condensers. Tap the glass and the detector will produce a ring in the speaker.

WOOLSTON (Christchurch): I have a six-valve American set which works excellently when I am at home, but when away, although I appear to have a good installation, I can neither get 3YA nor 4YA satisfactorily.

A.: This appears to be either the effect of the locality or the installation. Try increased height and see that all the joints are in good order.

CURIOUS (Ormondville): I have an aerial 70 feet long. Will it be improved if I increase it to 200 feet, and how would this affect the reception of Wellington?

A.: It would certainly increase signal strength and incidentally noise by lengthening the aerial. This would impair selectivity, but as you are some distance from 2YA the fact that it spreads that station over an extra degree or so would affect you very little.

2. Should a lightning arrester be on the inside of a wall?

A.: It is not necessary unless the lightning conductor is not waterproof.

ZACBAR (Parnell): How many turns are required on a short-wave coil to cover the 20 to 30-metre bands, reaction being controlled by a differential condenser? I am using a 3in. former.

A.: Use 18 gauge wire d.c.c. or d.s.c., and wind three turns through for the secondary and four for the tickler.

2. Could I use a rheostat for controlling the filament current?—Yes.

PUZZLED (Christchurch): See a recent "Radio Record," in which the specifications you ask for were published.

ROSLYN (Dunedin): Will a Sparrow Hawk adapter be suitable for my 4-valve B.D.?—Yes.

2. I use 90 volts B battery. Will it be an advantage to increase it; if so, how much?

A.: Yes, 135 volts on your last two valves should have a beneficial effect both to volume and tone.

3. I use two 221A's and two 201A's. Can this combination be improved?

A.: You could use a high gain power valve in the last stage. It will improve tone, but it may slightly reduce volume.

I.G.A. (Wanganui): How can I connect phones to my a.c. set which has provision for an extra speaker?

A.: Follow the makers' instructions and fit phones in the two points provided. You must use a resistance of 500,000 ohms in any one of the leads to control the volume.

2. Is the makers' combination of valve correct?

A.: Most decidedly yes. The distortion is due either to fading or overloading.

3. Is my make of set a good one?

A.: Yes, a laboratory report appeared some time back, and you will see from it the test was entirely satisfactory.

Questions and Answers

STEP UP (Greymouth): Is it possible to set-up an electric current by means of a Ford coil?

A.: It is possible to do so, but ordinary battery current is transformed into a pulsating current that is of little use to radio. The scheme is not practicable. The set to which you refer has not been tested against the Outspan Five, but we are sufficiently confident to assert that the "Outspan Five" would be the better.

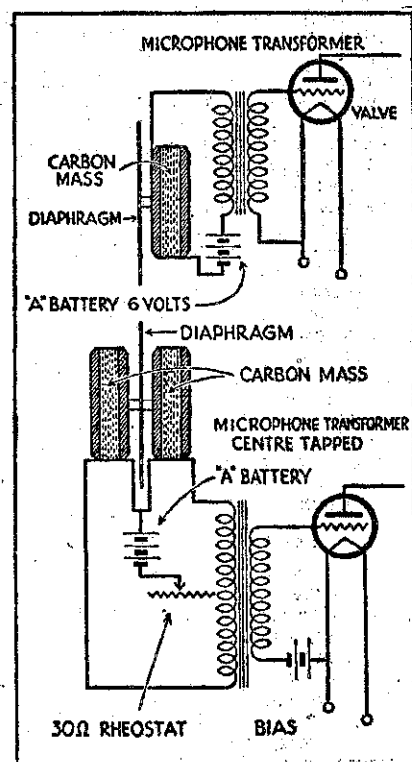
2. I have a National Union 280 valve. Can you give me some data?

A.: It is the same as an R.C.A. 280 rectifier.

3. Can I use a telephone type microphone in a low-power transmitter?

A.: Yes, but it will not be very satisfactory. You need more power than you contemplate using for phone work.

SHAKY CITY (Hastings): Will you tell me a suitable method of connecting a microphone to a set?



A.: Yes. You need a special microphone transformer and connect as we have shown in the diagram.

CHARCOAL (Wellington): I have 100ft. aerial 25 to 30ft. high, the aerials are only 12ft. from a bank in their centre. How could I improve the aerial?

A.: It is certainly a poor one. It could be improved by moving the top mast down nearer the crest of the bank or putting another mast there to keep the aerial well away. You could increase it to a three-wire aerial, but this would not be as effective as the plan just elaborated.

G.F. (Dunedin): I get better tone by using the first stage audio only. I am using two PM6 valves.

A.: You should not use two power valves in a circuit such as this. The

first PM6 is saturating your second transformer and spoiling the quality. Use a general purpose valve. We hope you are biasing the last PM6 correctly. It will require about 9 volts with 90 volts B.

2. Would I get better tone if I changed the 3-1 transformer to a 5-1?

A.: No; you would get a greater step-up but poorer quality.

COILS (Dunedin): Instead of the two moving condensers, both .00035, in the enclosed sketch, can I substitute by a .0005 and a .00025 condenser?

A.: It is unwise to depart from the specifications unless you make adjustments to the number of turns to the coils concerned. You can reduce the capacity of the .0005 to .00035 by the addition of a .001 fixed condenser in series with it. For regeneration you could wind on a few more turns and use .00025. Your circuit is wrong. If you wish to use a loop antenna, coils B and C (the secondary and reaction) must be the loop itself. You will not get any pick-up by carrying out the plans suggested by your sketch. A two-valve portable set was described in the "Radio Record" last year, and this shows the correct method of obtaining reaction from a loop antenna.

H.F. (Waikato): I am having difficulty with the neutralisation of my set. When I reduce the voltage on the r.f. valve the set blasts. When it is increased I cannot carry out the neutralisation.

A.: You may find it easier by using a 1 mfd. condenser between B+ h.f. and earth. One of your h.f. valves may be at fault. Try substitution.

2. I have my h.f. and l.f. battery supply feeding through one rheostat. Would a separate one on the h.f. side help neutralisation?

A.: In all probability, yes, but there is no need to have a rheostat on the l.f. valves. If they are American type using 5 volts the difficulty can be overcome by using a fixed resistance of about 10 ohms between each valve and the negative supply.

DUNCE (Hawera): Is the enclosed diagram of the L.W. with parallel valves OK?

A.: Yes, but you have omitted the ground connection from the centre tap of the high voltage winding.

2. What type of resistance do you advise?

A.: 75 watts dissipation.

3. Will the 280 rectifier be satisfactory for two 245's in parallel?

A.: Yes, we used the 281 in the sketch only to show the connections for anyone who wanted particularly to use that valve.

4. What is the value of the first resistance after the centre tap?—2500 ohms.

5. Is a centre tap choke necessary for a full-wave rectifier?

A.: No, although it will give a more silent background than the ordinary.

6. Are the resistances in the bias chain of a grid leak type?—Yes.

7. Can the h.t. voltages be put on to the valves at the same time as the filament current?

A.: It would be better to put a switch in the h.t. supply in order to allow the valves to heat up first.

Note.—Your attention is drawn to the fact that correspondents are limited to three questions except upon payment of one shilling fee.

J.C.S. (Christchurch): Could the knife edge ejector described in the 1931 "Guide" be attached to an a.c. set with three tuned circuits and give good results?

A.: Yes, but it should not be necessary. A set with three tuned circuits should be quite selective.

REGENT (Methven): Oscillation is fierce and ploopy. If I turn the detector back from full the set suddenly goes dead.

A.: Probably the resistance is defective, for there is evidently poor regulation.

You should borrow a voltmeter and try to find out what happens when you turn back the knob.

2. The set consists of a detector and two audio stages. I am using two 201A's and a Condor PR54.

A.: The Condor valve is an ordinary g.p. valve. You should use a high gain power valve of the B805 class. This will give far better tone. You will need more biasing with this valve, probably 15 volts. You might increase the voltage on the Condor valve to 9 with good results.

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- "Radio Engineering" (a monthly issue), 21/- per annum.
- "Projection Engineering" (monthly) 21/- per annum.
- "Radio Citizen's Call Book," latest quarterly, March, 1931, 2/9.
- "N.Z. Radio Guide and Call Book, 1931," 2/10.
- "1931 N.Z. Radio Handbook," 2/10 posted.
- 6-Valve Neutrodyne Blue Prints and instructions with one transformer and 2 resistance coupled audio stages, 1/8.
- 5-Valve Neutrodyne Receiver Blue Prints and full instructions, 1/8.
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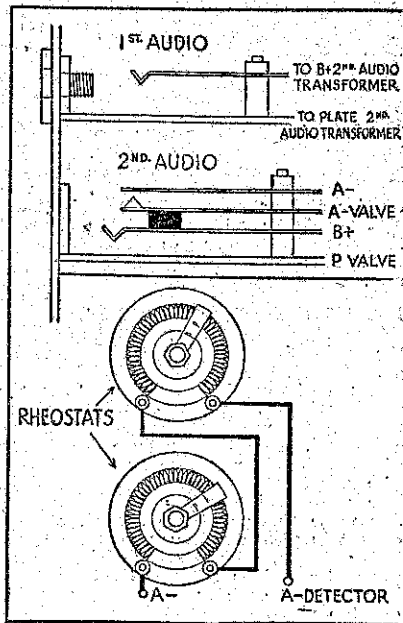


THE Technical Editor has asked me for a description of my set. Well, really, that is a difficult task, for an experimenter rarely has his set quite the same from one week-end to another. Things are always rough. One is continually changing components about, trying different things, and generally improving reception. After he has done this a few times the set begins to look far from the original neat job it was intended to be. And this is to some extent true about mine—but it enables me to get good results, and that is everything.

In the first place I do not believe in cramping a set, but at the same time I strongly decry the use of long leads. They must run direct, particularly those carrying high frequency current. Do not worry about the look of the set. It will certainly not look as good as nicely-bent stiff wires, but there is a big difference when it comes to results. Run your wires direct; take them by the shortest path. Until you know just what you are doing, do not be too keen to depart from the layout given. Every competent experimenter has his own ideas about this, but they nearly all come down to the same fundamental rules.

The whole cabinet is metal, and the screen grid valve is not only shielded from the rest of the set, but above the grid is another shield, reaching to the top of the cabinet.

You will notice that I am using big coils. Now some people are going to say they are old-fashioned, but, al-



though they take a little time to make and are perhaps more bulky than the neater valve base coil, there is no doubt they are more efficient. I use a large number of coils—six—but this is to provide ample overlap so that no station need be brought in with the condenser almost full in. To obtain the best results there should be as little capacity and as much inductance in the circuit as possible. This means that big coils and small condensers are to be preferred. Now you know why I have so many coils. If I want one station in particular, I make a special coil for it. I have done this for G5SW, so that I can bring him in at about 10 on my dial.

I suggest that double spaced condensers be used for the two tuners, and if you wish to tune very finely, use the ball-bearing type with special 200-1 vernier dials. You will find that the detector stage is far more critical than the radio, so if some of your parts are better than others, put the good ones into that stage.

ANOTHER wrinkle that I have discovered is that the detector filament voltage is very critical and, what is more, it works best a long way below its rated voltage. I find that 60 ohms should be used on the filament of the detector valve. Valves vary, and, what is more, they vary from

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The "Sellens" S

Four Valves with

By F. W. Se

We publish here details of a set wave enthusiasts. It is the one used by the president of the Short-wave Club, Wellington. Many correspondents have requested details of the circuit. There could be few occasions when it might be described.

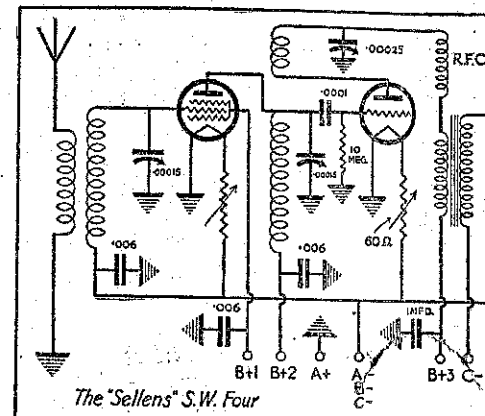
time to time, and you will find that for very best results these two rheostats will have to be altered fairly often. The rheostat controlling the radio valve need be adjusted only the once. It then "stays put."

I do not believe in the use of a filament switch. A far better plan is to use the rheostat outside the set. When a battery is charged it may be as high as 6.5 volts and it gradually falls until it might be as low as 5.75. I use a rheostat between this battery and the set and so maintain the current as near as possible to 6 volts. When the set is finished with I merely turn out the rheostat. By using a switch the current is cut off sharply and the process is analogous with stopping a car by jumping on the brakes when it is travelling at top speed. Far better to turn off the gas and apply the brakes gently.

If you look at the theoretical circuit you will see very many by-pass condensers. These have been put in because they have been really necessary, particularly because I use an eliminator—an ordinary commercial job—and this accounts for the apparent surfeit of condensers. In the detector lead from my eliminator I use an ordinary Ferranti B3 choke and a 4 mfd. by-pass condenser. I can listen-in on phones and get only the slightest hiss, which is no greater than R1.

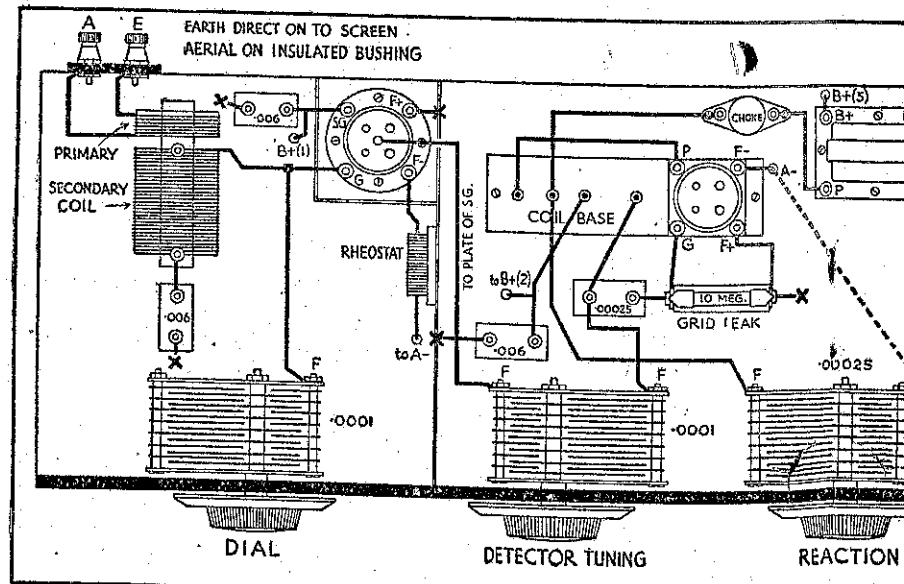
In tinkering around the set I found that a .006 condenser between the grid of the first audio and the plate of the second audio would sometimes be beneficial and at other times would reduce signal strength and make a quieter background, so I fixed it up with a switch. I have shown this on the diagrams.

OF the sub-panel wiring there is very little, and I have thought it unnecessary to prepare a separate diagram. The filament wiring and the leads to the batteries or eliminator are all that pass under the base. The filament wires have been indicated by dotted lines, while the other battery



connections are shown disappearing into holes. From there they go by the shortest route to the power supply. Attached to the "B" leads are the one microfarad condensers. These are joined at convenient places by connecting the battery wire on one side and the other side to the metal sub-panel. Condensers have been shown in all the leads, but if batteries are used most of these are unnecessary. The detector one is the most important, whether batteries or eliminator are used.

It was a... Only one... is shown... the m... detect... tions, c... plates. The present... merely from t...



Horrobin's Cut Prices for Sellen's Short-wave Receiver Parts

Panel 24in. x 7in., 7/6. Metal Sub Panel 24in. x 9in., 5/-. Flanged to requirements. Screen 9in. x 7in., 2/9. Valve Screens 3in. x 3in., 6d. each. Two .0001 Double-spaced Condensers, 15/9 complete with Vernier Dials. One .00025 Condenser, variable, 5/6 each. Three Vernier Dials, 8/6 each, 160-1 ratio; other good makes 7/6. Two 30-ohms or one 60-ohms Rheostat, 30 ohms 2/9 each. Two 30-ohms Baseboard Mounting Rheostat, 2/6 each. Two Jacks, one filament break, one two-pin—Filament control 1/6, I.S.C. Jack 1/3. Four .006 Fixed Condensers, T.C.C. 3/4, others 1/6. Three 1 Mfd. Condensers, 500V, test 3/-, 1000 V. 5/-. One .0001 Fixed Condenser, T.C.C., 1/6. One H.F. Shortwave Choke, Igranite, 2/6. One 10-Megohms Leak, 1/6. Four U.X. Valve Sockets at 1/6 each. Two Audio Transformers, Igranite, 16/6 each, latest pattern. Four dozen Valve Pins, 1/- dozen. Eight Valve-pin Sockets at 1/4d. and 3d. each. Half-pound of 18-gauge D.S.C. 2/3. D.C.C. 1/6, or Enamel-covered Wire, 1/4. Small quantity of 30-gauge D.S.C. Wire, 6d. One Seven-wire Battery Cable, 9d. ft. One foot of 2in. Strip Ebonite, 9d. Glazeite, Wood Screws, Nuts and Bolts, etc., 2/-.

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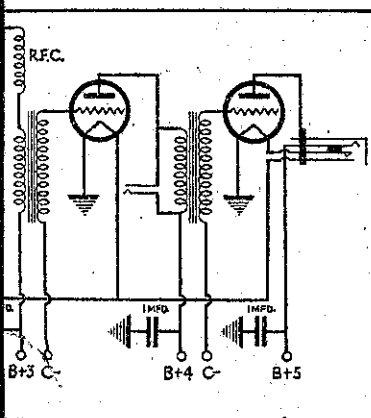
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Shortwave Set

h Screen Grid

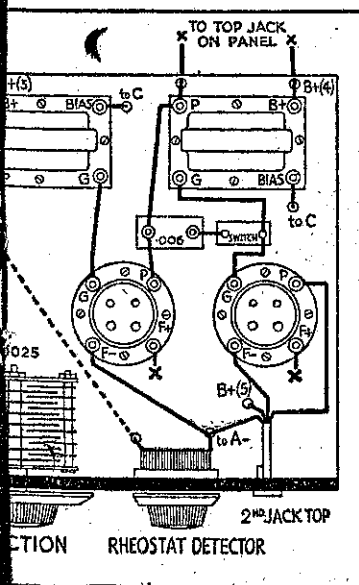
Sellens

set coveted by many short-
e used by Mr. F. W. Sellens,
ub, who compiles our weekly
e requested details of his
asions better than this when



It will be noticed that the metal portions are connected to A+ and to earth. Only one side of the moving condensers is shown connected to anything, for the moving plates automatically connect with the screen. Note that the detector condenser has two connections, each of whom is from the stator plates.

The jacking arrangement should not present any difficulty. The top jack is merely a two-spring affair insulated from the panel, and one side connects



with P of the second audio transformer and the other to B+ of that transformer. Do not use a complicated arrangement to cut out the primary of this transformer when using the first stage. It complicates the wiring too much and is liable to introduce unwanted oscillation. Use a filament break jack for the second stage and arrange it so that when the plug is in position the filament circuit to the last valve is made. One of the diagrams shows this fairly clearly.

It is always easier to tune with the 'phones in the first stage and then if the station is coming in strongly enough connect up the speaker to the last stage. There is usually a little too much background when four valves are used on the telephones.

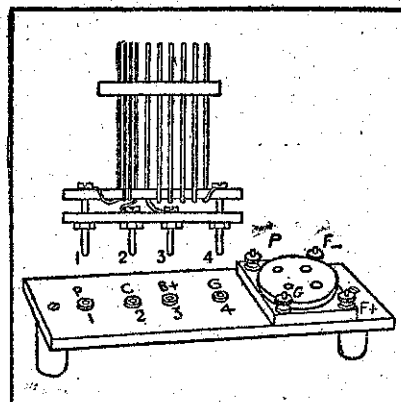
AN output filter out of the set is almost a necessity. Arrange this in some convenient place and connect the output side to a 'phone jack. The input side is connected to a plug, which can be connected with whatever jack is to be used. Either 'phones or speaker can be connected with the output side of the filter, but of course the plug connected with the filter must be taken to the appropriate jack.

It is perhaps unnecessary to add that the aerial terminal is well insulated from the sub-panel. It is on a piece of ebonite with a hole a little larger than its shank, and thus cannot connect with the frame. The earth terminal is taken direct to the cabinet.

The Coils.

IF you can buy the formers for these well and good; the job of winding them will be simple. If they have to be made, the job is not a difficult one, but will need care, for they will best be wound on celluloid. I shall not pause here to describe in detail how the coils are made. That was done fairly fully in the 1930 "Radio Guide," but as I understand this is out of print, I have asked the Technical Editor if he would reprint the portion that is of interest.

Coil formers of various kinds are offered for sale, and many convenient forms can be purchased, but there are still many constructors who prefer to construct their own coils, and to such there is no material that makes a greater appeal than does cel-



luloid. It is easily worked and joined, and looks neat when finished, and the amount of labour involved is small.

Many constructors are already familiar with this type of coil construction, but for the benefit of many newcomers to the constructional realm we give a resume of the important points of the process.

One advantage of this material is that it may be procured in any town possessing a motor-trimming establishment, and its cost is small. Roughly speaking, two thicknesses are usually obtainable, one being heavy and the other light, the latter being most suitable for the construction of cylindrical formers. If the sheet celluloid is too heavy, it will go out of shape at the joint. Where flat pieces are required, the heavy sheet is more suitable, as it gives strength.

Celluloid can be cut with scissors, but the usual method is to scratch the surface heavily with a sharp steel point, when the sheet may be bent smartly, and will separate at the scratch. A pair of punching pliers is very handy for making round holes for screws, or for cutting out special shaped holes or slots, cutting away the celluloid little by little with the punch.

The best solvent to use is a mixture of two parts of acetone to one part of amyl acetate. The chemist will put these both into one bottle, and the solution is there ready for use. To make celluloid cement, waste celluloid is cut into chips, placed in a small bottle, and covered with the liquid to twice the height of the chips. With an occasional stir, the celluloid will be dissolved in about an hour, and should be of creamy consistence for use—running off the stick which is used for application. As the solution evaporates quickly, keep the bottle well corked when not in use, and keep away from an exposed flame. The solution, if applied thinly and liberally, sets in a few minutes. This mixture, if made extra thin, is suitable for "doping" linen-diaphragm speakers.

Round bottles are the handiest article upon which to make cylindrical formers. All that is necessary is to select a bottle just under the required diameter, cut a piece of celluloid the length of the cylinder in one direction, and the opposite dimension just sufficient to go round the bottle and overlap not more than 3-8 inch. Both surfaces that overlap are covered with a thin layer of cement and then drawn round the bottle, overlapped, and pressed together. The whole must now be covered with many turns of twine wrapped tightly round at random, so that turns are an average of 1-8in. apart, keeping close to the ends particularly. When overlapping the join, a strip of thin paper should be (Concluded on page 31.)

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FEATURE PEEPS

... at ...

FUTURE PROGRAMMES

SUNDAY

1YA Notes

DURING the afternoon there will be a relay of a portion of an organ recital to be given in the Auckland Town Hall by the City Organist, Mr. Maughan Barnett. In the evening, the service will be relayed from the Pitt Street Methodist Church, the Rev. W. Walker being the preacher. In the after-church concert, Mr. Denis Sheard, tenor, late of Australia, will broadcast. The Aubade Trio, consisting of piano, violin and contralto, will be making their initial appearance.

Mr. Edward V. Johnson, a young flautist, will be heard in several numbers.

From 2YA

THE service to be held in the Vivian Street Church of Christ will be relayed, the preacher being Pastor W. G. Carpenter and the organist Miss Hazel Hunter. At 8.15 p.m., approximately, a recital by the Wellington Municipal Tramways Band, under the conductorship of Mr. E. Franklin, will be relayed from St. James's Theatre.

Christchurch Topics

THE service in the Oxford Terrace Baptist Church (the Rev. L. A. North) will be broadcast, Mr. W. Melville Lawry officiating at the organ and Mr. K. G. Archer will be choir-master. 4YA's studio concert will then be relayed.

Items from 4YA

THE Rev. A. Mead will be the preacher at Moray Place Congregational Church, Dunedin, when the service will be broadcast. The choir-master will be Mr. Walmsley. A studio concert, to be given by the Kaitorai Band, under Mr. T. J. Kirk-Burnnand, will follow.

MONDAY

Broadcast by 2YA

AN interesting item on 2YA's programme will be the performance of Percy Grainger's "Colonial Song," a piano solo with tenor and soprano voices singing an obligato. In this piece the composer endeavours to express feelings aroused by thoughts of the scenery and people of his native land (Australia), without making use of traditional tunes of any kind.

The piano part will be played by Mr. Gordon Short, and the obligato sung by Miss Jeannette Briggs and Mr. Harry Brusey. The Ariel Singers will present Liza Lehmann's popular song cycle "The Daisy Chain," with trio accompaniment. The cycle consists of solos and quartets, and by reason of its tunefulness and simplicity has a universal appeal.

The Orchestra, under the conductorship of Signor A. P. Truda, will contribute some fine numbers, including Mattel's beautiful "Non e Ver" ("Tis Not True") for trumpet solo and orchestra.

Christchurch Features

THE first of a series of talks on "Treatment and Care of the Feet"

will be broadcast from 3YA by Mr. R. B. Belford, an authority on the subject. The Christchurch Municipal Band will provide the concert.

Notes from Dunedin

"THE MAJORS" QUARTET will be the vocalists this evening. Their numbers will include extracts from



LAD HAYWOOD,
a 2YA artist who will next be heard in a novelty duo number on April 24.
—S. P. Andrew, photo.

"No, No, Nanette," "Annie Laurie" and "The Cuckoo Sings in the Poplar Tree." Two popular songs, "The Dover Patrol" and "Tom Bowling" will be sung by Mr. E. W. Robbins, tenor, and Mr. L. M. Cachemaille will sing, as a bass solo, "The Mistress of the Master." An orchestral programme will be provided by a sextette under Mr. Pettitt.

TUESDAY

Auckland Items

THE main feature of 1YA's programme is the second appearance of Denis Sheard, the well-known Australian tenor, who will be heard in "M'appari O Quella" (from "Rigoletto"). Gwladys Edwardes, another outstanding visiting Australian artist possessing a particularly fine soprano voice, well known to 2YA listeners, will make the first appearance of three at this station. Mr. Reg. Morgan and his orchestra will provide the instrumental portion of the programme and dance music until 11 p.m.

FEATURETTES

Colonial Song

2YA, Monday.

Dunedin Exhibition

3 & 4YA, Wednesday to Friday.

Shakespeare Evening

1YA & 2YA, Thursday.

Anzac Day Broadcast

All Stations, Saturday.

The 2YA Programme

A PROGRAMME of the popular type will be presented this evening. The Salon Orchestra, under the conductorship of Mr. M. T. Dixon, will play the overture "A Day in Naples" (by Byng), "Berceuse" and "Canzonetta" (two compositions by Friml), the suite "Cyrano de Bergerac" (by Rosse) and will also feature a very clever composition by Saint Saens, entitled "The Carnival of Animals," for two pianos and orchestra. The vocalists for the evening will include "The Melodie Four" in a varied and interesting programme. The White Coons, novelty instrumentalists, will again delight listeners with dulcimer solos and trios. Suitable electrical recordings will be introduced to complete the programme.

Features from 4YA

UNDER the auspices of the W.E.A. Mr. Lloyd Ross, M.A., LL.B., will give a talk, the first of "The Metropolis Series," on "Old and New in Vienna." A band concert to be provided by the Dunedin Tramways Band under the conductorship of Mr. C. T. Morgan, supported by 4YA artists, will be presented at 8 o'clock.

WEDNESDAY

Notes from Auckland

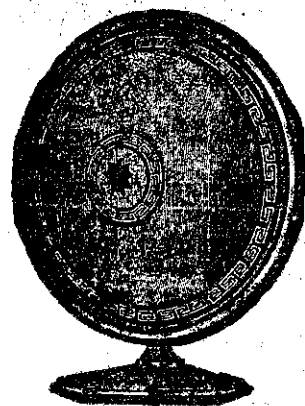
THE instrumental portion of the programme will be provided by the Birkenhead Municipal Band under the conductorship of Lieutenant J. T. Lighton. They will play, among other numbers, the selection "The Pirates of Penzance," the overture "The Crimson Star," and "Hamlet" selection. The Orpheus Quartet, Chrissie Foster, Cathleen Mulqueen, Sid. Poffley and E. M. Newling, will give several excerpts from the musical comedy "The Quaker Girl."

Wellington Topics

THE next instalment of the international programmes—recordings selected from overseas broadcast entertainments—will be featured, Dr. Guy H. Scholefield, O.B.E., will talk on an international topic.

From 3YA and 4YA

A TALK on "Poppy Day" will be broadcast from 3YA at 7.45 p.m., and in the evening 4YA's Exhibition programme will be broadcast.



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THURSDAY

1YA Items

UNDER the auspices of the New Zealand Manufacturers' Association, a talk on "Pickles, Sauces, etc." will be given by Mr. J. P. Stevenson.

As to-day is the anniversary of the birth of William Shakespeare, a special commemorative programme has been arranged. Mr. J. F. Montague and his dramatic players will present several scenes and vocal numbers from Shakespeare's works, while the orchestral octet will provide appropriate instrumental music, including the suite "As You Like It," "Shakespearean Sketches," and "The Beggar's Opera."

2YA Notes

AT 7.40 Mr. W. E. Priestly will broadcast a talk on "Modern Ball-room Dancing."

A Shakespearean programme will be broadcast, the major portion of which will be given by Mr. Clement May.

These will include scenes from "Romeo and Juliet," "Julius Caesar" and "Macbeth." Supplementary to these numbers, Misses Mona and Mavis Castle will be heard in a programme of songs and duets suitable to the day. The incidental music will be supplied by the McLean brothers and Mr. Norman Izett (violin, cello and piano) in a programme of music suitable for the occasion, including "Henry VIII Dances" (by German) and a suite from "The Merchant of Venice" (by Rosse).

Christchurch and Dunedin Notes

UNDER the auspices of the Forestry League, Mr. C. E. Foweraker will speak from 3YA at 7.30 on "Forestry." 3YA will broadcast 4YA's exhibition programme.

FRIDAY

Selections from Auckland

AT 7.40 p.m. there will be a talk by Mr. E. R. Davis on the "Pig Industry." The vocalists for this even-



MR. REG. BLOW, L.R.A.M., an excellent baritone appearing from 2YA on April 28.



MRS. HOWARD AND HER MELODY MAKERS.

This quartet has performed acceptably during the 2YA Children's Session and will be heard on the air again on May 16 and July 4. On this latter occasion they will be heard in an all-American programme in keeping with the glorious fourth.

ing's programme will be Mrs. B. Jelard (contralto) and Mr. George Martinengo, who is making his first appearance at this station. Mr. Martinengo is a vocalist and 'cellist of repute who many years ago toured New Zealand. He will be heard in baritone solos and also a 'cello solo. Other instrumental items will be given by Mr. Robert McKnight (English concertina artist) and Barry Ingall's Hawaiians. The Twa Maes, who are a new combination, will broadcast twenty minutes of Scottish humour and songs, while Mr. Eric Bell will play a group of light popular classical numbers. Lovers of this type of music will welcome the appearance of this young artist.

2YA Features

FEATURED on this evening's programme will be Mr. Rex Harrison, who will be heard in two numbers from Amy Woodforde-Finden's "Indian Love Lyrics"—"The Temple Bells" and "Less Than the Dust" to orchestral accompaniment, "Invictus" and "Nelson's Gone a'Sailing." Mr. Lad Haywood and Mr. Billy Hart will again be heard in a budget of up-to-date popular numbers. The Orchestra, under Signor A. P. Truda, will play many fine numbers, including "La Paloma" and "Spring Song." The programme for the evening will be subject to interruption to permit of a relay of a sound film feature from the Majestic Theatre.

3YA and 4YA Items

THE 4YA Exhibition programme will be relayed to and broadcast by 3YA.

SATURDAY

Auckland Notes

TO-DAY, Anzac Day, 1YA will relay at 11 a.m. the Anzac Day service, to be held in the Auckland Town Hall, and at 2.30 p.m. will broadcast a description of the ceremony at the Cenotaph.

A fitting programme has been arranged for the evening, and some very fine artists have been engaged. Miss

Edna Peace (contralto) will sing, among other numbers, "Crossing the Bar" and "The Better Land," and Miss Mollie Atkinson has included in her numbers "O Fair and Sweet and Holy." The tenor vocalist for the evening will be Mr. Arthur H. Ripley, and he has chosen some very fine and appropriate items—"Be Thou Faithful," "Oft in the Silly Night," and "Sound an Alarm." Miss Joyce Hould, a clever young elocutionist, will give four numbers by Massfield, an extract from "Gallipoli," "Laugh and be Merry," "A Consecration" and "August, 1914." Appropriate music will be provided by the Orchestral Octet, under the direction of Mr. Harold Baxter.

Wellington Items

THREE relays will be performed, the first at 11 a.m., when a children's service is to take place at the Cenotaph. At 2.30, a next-of-kin memorial service, arranged by the Wellington Returned Soldiers' Association, will be relayed from the Town Hall. At 8 o'clock an Anzac Day sacred concert, under the direction of Mr. H. Temple White, arranged by the R.S.A., will be broadcast.

From 3YA

THE Christchurch Citizens' Memorial Service, to be held at 2.30, will be broadcast this afternoon. The speaker will be Mr. W. Perry, LL.B., Dominion vice-president of the Returned Soldiers' Association. A special Anzac service will take place in Christchurch Anglican Cathedral at 7

o'clock, Mr. Frank Milner, C.M.G., being the speaker. At 8.15 p.m. a studio concert will be broadcast.

4YA Features

A SERVICE to be held in First Church, Dunedin, at 10.30 a.m., under the auspices of the Council of Christian Congregations, will be broadcast. The service will be conducted by the Rev. A. Mead and the preacher will be the Rev. D. C. Herron, M.A., M.C. At 3 o'clock a service, to be held in the Town Hall under the auspices of the Returned Soldiers' Association, will be broadcast. In the evening, 3YA's studio concert will be relayed.

3YA Jottings

MISS OLIVE COOPER, a pianiste heard from 3YA, will be the pianiste at the forthcoming concert to be given in the Radiant Hall by the Christchurch Orchestral Society.

The subject for the next of the series of Maori lectures by Mr. Te Ari Pitama will be "Our People."

Soon to be heard in some of her own Hungarian folk songs will be Mrs. W. Greene, widow of the late Mr. W. G. Greene, the well-known New Zealand artist.

New artists to sing shortly are: Miss Myrtle Wright, mezzo-soprano (of Dunsandel), and Mr. A. Mitchell, tenor.



GWLADYS EDWARDES.

A noted 2YA contralto, who has not long returned from Australia. During the forthcoming week she will broadcast from 1YA.

—S. P. Andrew Photo.

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Full Programmes for Next

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Sunday, April 19

1YA, AUCKLAND (900 KILOCYCLES)—SUNDAY, APRIL 19.

3.0 : Selected recordings, and relay from the Auckland Town Hall of selections from an Organ Recital by the City Organist, Mr. Maughan Barnett.

Literary selection.

6.0 : Children's song service, conducted by "Uncle Bert."

7.0 : Relay of divine service from the Pitt Street Methodist Church. Preacher, The Rev. W. Walker. Organist and Choirmaster, Professor W. A. Moor.

8.30 (approx.) : Orchestra of Opera Comique, Paris, "Ballet Egyptien."

8.42 : Vocal and instrumental—The Aubade Trio, pianoforte solo, "Humoresque" (Swinstead); contralto solos, "Four Ducks in a Pond" (Needham), "Sing Merrily To-day" (Phillips), "Serenata" (Braga); violin solo, "Liebeslied" (Kreisler).

8.54 : Tenor—Mr. Denis Sheard, (a) "I Hear a Thrush at Eve" (Cadman); (b) "A Spirit Flower" (Campbell-Tipton).

9.0 : Weather forecast and announcements.

9.2 : Vocal and instrumental—The Aubade Trio, violin solo, "Schon Rosmarin" (Kreisler); contralto solos, (a) "The Market" (Carew), (b) "Five Eyes" (Armstrong Gibbs); pianoforte solo, "Clair de Lune" (Debussy).

9.15 : Flute—Mr. Edward V. Johnson, "Bohemian Girl" (Balfe).

9.21 : New Queen's Hall Orchestra, "Summer Days Suite" (Coates): (1) In a Country Lane, (2) On the Edge of the Lake, (3) At the Dance.

9.38 : Tenor—Mr. Denis Sheard, (a) "I Heard You Singing" (Coates); (b) "Serenata" (Toselli).

9.39 : Male choir—Associated Glee Clubs of America, (a) "Calm as the Night" (Bohm—arr. Andrews); (b) "On Wings of Song" (Mendelssohn).

9.47 : Flute—Mr. Edward V. Johnson, (a) "Spirale Scherzo" (Donjon); (b) "Aria in C" (Lemmone).

9.53 : Band—H.M. Coldstream Guards, "Les Cloches de Corneville."

10.1 : God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—SUNDAY, APRIL 19.

3.0 to 4.30 : Selected gramophone recordings.

6.0 : Children's song service, conducted by "Uncle George," assisted by the Children's Choir from the Wellington South Church of Christ.

7.0 : Relay of evening service from the Vivian Street Church of Christ. Preacher, Pastor W. G. Carpenter. Organist, Miss Hazel Hunter.

8.15 (approx.) : Relay from St. James Theatre of Band Recital by the Wellington Municipal Tramways Band; Conductor, Mr. E. Franklin.

3YA, CHRISTCHURCH (980 KILOCYCLES)—SUNDAY, APRIL 19.

3.0 : Gramophone recital.

5.30 : Children's song service by children of the Baptist Sunday Schools.

6.15 : Chimes from the studio.

6.30 : Musical recordings.

7.0 : Relay of evening service from Oxford Terrace Baptist Church. Preacher, Rev. L. A. North. Organist, Mr. W. Melville Lawry. Choir Conductor, Mr. K. G. Archer.

8.15 (approx.) : Relay of programme from 4YA, Dunedin.

10.0 (approx.) : God save the King.

4YA, DUNEDIN (650 KILOCYCLES)—SUNDAY, APRIL 19.

3.0 : Selected recordings.

5.30 : Children's song service, conducted by "Big Brother Bill."

6.15 : Instrumental recordings.

6.30 : Relay of evening church service from Moray Place Congregational Church, Dunedin. Preacher, Rev. A. Mead, M.A. Choirmaster, Mr. Alfred Walmsley.

7.45 (approx.) : Selected recordings.

8.15 : Studio programme by Kaikorai Band, under the direction of Mr. Thos. J. Kirk-Burnnand, assisted by 4YA artists.

Quick-step—The Band, "Waldmere" (Losey); Romance, "Oavatina."

8.24 : Soprano—Miss Dorothy M. Sligo, (a) "The Willow" (Goring-Thomas); (b) "The False Prophet" (Scott); (c) "Damon" (Stange).

8.33 : Overture—Band, "Tancredi" (Rossini).

8.41 : Bass—Mr. Wilfred Kershaw, (a) "Teach Me to Pray" (Jewitt); (b) "I Come to Thee" (Roma); (c) "God Touched the Rose" (Brown).

8.50 : Male choir—Don Cossacks, (a) "In Der Kirche" (Tchaikowsky); (b) "Korsaken Wiegenlied" (Gretchaninoff).

9.0 : Weather report and station notices.

9.2 : Humorous fantasia—Band, "Pop Goes the Weasel" (Hawkins).

9.10 : Tenor—Mr. J. Kennedy, (a) "Prayer Perfect" (Stensen); (b) "Face to Face" (Johnson); (c) "Faith" (Easton).

9.20 : Concert waltz—Band, "Crown of Beauty" (Greenwood); Hymn, "Eternal Father" (Dykes).

9.30 : Selected recordings.

10.0 : God save the King.

2YB, NEW PLYMOUTH (1230 KILOCYCLES)—SUNDAY, APRIL 19.

6.0 : Children's service.

8.15 : Studio concert.

Monday, April 20

1YA, AUCKLAND (900 KILOCYCLES)—MONDAY, APRIL 20.

SILENT DAY.

2YA, WELLINGTON (720 KILOCYCLES)—MONDAY, APRIL 20.

3.0 : Chimes. Selected gramophone recordings.

3.30 and 4.30 : Sporting results to hand.

5.0 : Children's session, conducted by "Uncle Jeff."

6.0 : Dinner music session.

London Symphony Orchestra, "Czar Sultan" Suite.

International Concert Orchestra, "Waltz Dream" (Strauss).

De Groot and His Orchestra, "Louise" Selection (Charpentier).

New Light Symphony Orchestra, "Peer Gynt Suite" (Grieg); (1) Ingrid's Lament; (2) Arabian Dance: "Prelude in G Minor" (Rachmaninoff); "Peer Gynt Suite" (Grieg); (1) Return of Peer Gynt; (2) Solveig's Song: "Prelude in C Sharp Minor."

De Groot and His Orchestra, "Samson and Delilah" (Saint Saens).

Philadelphia Symphony Orchestra, "Danse Orientale" (Glazounov).

International Concert Orchestra, "Sari" (Kalman).

Philadelphia Symphony Orchestra, "March of the Caucasian Chief."

7.0 : News session, market reports and sports results.

8.0 : Chimes. Overture—Philadelphia Symphony Orchestra, "Rienzi."

8.13 : Vocal trio—Ariel Singers, "Ye Shepherds, Tell Me" (Massanghi).

8.17 : Bass—Mr. J. M. Caldwell, "Border Ballad" (Cowan).

8.21 : Selection—2YA Orchestrina (Conductor, Signor A. P. Truda) "Rakoczy" (arrgd. Kela Bela).

8.30 : Song Cycle with trio accompaniment—Ariel Singers, "The Daisy Chain" (Lehmann)—First half—Quartet—"Foreign Children"; Contralto—"Fairies"; Baritone—"Keepsake Mill"; Soprano—"If No One Ever Marries Me"; Tenor—"Stars"; Quartet—"Seeing the World."

8.45 : 'Cello—H. W. Squire, (a) "Ave Verum" (Mozart, arrgd. Squire); (b) "Sarabande" (Sulzer).

8.53 : Selection—2YA Orchestrina, "Snegourochka" (Korsakov).

9.0 : Weather report and station notices.

9.2 : Band—H.M. Coldstream Guards, "Les Cloches De Corneville."

9.10 : Contralto—Miss Ngaire Coster, "Promise Me" (Besly).

9.14 : Piano—Mr. Gordon Short, with tenor and soprano obligato, "Colonial Song" (Grainger).

9.22 : Song Cycle with trio accompaniment—Ariel Singers, "The Daisy Chain" (Lehmann)—Second half: Quartet—"Blind Man's Buff"; Contralto—"The Ship That Sailed Into the Sun"; Soprano—"The Swing"; Baritone—"Mustard and Cress"; Tenor—"The Moon"; Quartet—"Thank You Very Much Indeed."

9.37 : Violin—Erica Morini—"Introduction and Tarantelle" (Sarasate); (b) "Romanza Andalus" (Sarasate).

9.45 : Vocal duet—Misses Jeanette Briggs and Ngaire Coster, "Morning."

9.49 : Trumpet with orchestra—Mr. S. Bernard and 2YA Orchestrina, "Non E Ver" (Mattel).

Valse—2YA Orchestrina, "Les Adieux" (Gung'l).

10.0 : Dance programme.

Foxtrots—Colonial Club Orchestra, "Out of Breath" (Mercer).

Andy Kirk and His Twelve Clouds of Joy, "Sweet and Hot."

Colonial Club Orchestra, "I Am Only Human After All."

Tom Clines and His Music, "Bye Bye Blues" (Bennett).

10.12 : Waltz—Castlewood Marimba Band, "Waiting For You" (Green).

Foxtrots—Colonial Club Orchestra, "Hittin' the Bottle" (Koehler).

Ben Bernie and His Orchestra, "Highway to Heaven."

10.21 : Vocal—Allen McQuhae, "At the End of a Cobblestone Road."

10.24 : Foxtrots—Anglo-Persians, "In Memory of You" (Dubin).

Ben Bernie and His Orchestra, "Love Comes in the Moonlight" (Dubin).

Week-all Stations-to Apl. 26

[Copyright.—These programmes are copyright, but individual daily programmes may be published on day of performance.]

Colonial Club Orchestra, "How Are You To-night in Hawaii?" (Leslie).

10.33: Waltz—Ray Miller and His Orchestra, "Beneath Montana Skies."
Foxtrots—Isham Jones' Orchestra, "Miss Hannah" (Redman).
Earl Burnett and His Los Angeles Biltmore Hotel Orchestra, "Here Comes the Sun" (Freed).

10.42: Vocal—Allen McQuhae, "The Dawn Brought Me Love and You."
10.45: Foxtrots—Abe Lyman and His California Orchestra, "If You're Not Kissing Me" (Freed).

Tom Gerun and His Orchestra, "Sittin' on a Rainbow" (Yellen).
Castlewood Marimba Band, "Lo Lo" (Feist).

10.54: Foxtrots—Colonial Club Orchestra, "Out of a Clear Blue Sky."
Tom Clines and His Music, "I'm Needin' You" (Young).

11.0 : God save the King.

3YA, CHRISTCHURCH (980 KILOCYCLES)—MONDAY, APRIL 20.

3.0 : Gramophone recital.

4.25: Sports results.

5.0 : Children's Hour, conducted by "Cousin Margot and the 'Mystery Man.'"

6.0 : Dinner music session.

Great Symphony Orchestra, "A Rendezvous With Lehar."

Marek Weber and His Adlon Orchestra, "Lettre a Armand."

Paul Godwin's Orchestra, "Serenata" (Clement).

Philharmonic Orchestra, Berlin, "Euryanthe" Overture" (Weber).

Efim Schachmeister Orchestra, "Gipsy Farewell" (trdtl.).

Philharmonic Orchestra, Berlin "Tannhauser Grand March."

Marek Weber and His Adlon Orchestra, "Dreams" (Wagner).

Paul Godwin Orchestra, "Types Tziganes" (Clement): "Sidelights Medley" (Morena).

Efim Schachmeister Orchestra, "White Acacia" (trdtl.).

Philharmonic Orchestra, "Prelude to Act 3—Lohengrin" (Wagner).

7.0 : News session.

7.30: Talk—Mr. R. B. Belford, "Treatment and Care of the Feet."

8.0: Chimes. Band programme by Christchurch Municipal Band (Conductor Mr. J. Noble) and assisting 3YA artists. March—Band, "Port Lincoln" (Ord Hume); Intermezzo, "The Village Forge."

8.14: Baritone—Mr. Percy A. Caithness, (a) "Mate o' Mine" (Elliot); (b) "The End of the Road" (Dillon and Lauder).

8.20: Organ—Leo Stin, (a) "Berceuse De Jocelyn" (Godard); (b) "Le Petit Quinquin" (Dessousseaux).

8.24: Soprano—Miss Adela Innes, (a) "A Green Cornfield" (Head); (b) "Young Love Lies Sleeping" (Somervell).

8.28: Foxtrot—Band, "The Northern Belle" (Lafont).

8.33: Humour—Mr. Harold Shaw, "Bertram at the Batchelor's Club."

8.46: Mezzo-soprano—Mrs. J. A. Stewart, (a) "Happy Song" (Del Riego); (b) "Sing Joyous Bird" (Montague Phillips).

8.52: Banjo and guitar—Brothers Bertini, "Medley of Stephen Foster Songs."

8.58: Waltz—Band, "Lady Vivian" (Newbold).

9.3 : Weather forecast and station notices.

9.5 : Accordion—Jean Valssade, (a) "Couscous" (Latoire); (b) "The Secret of a Night" (Vaissade).

9.11: Baritone—Mr. Percy A. Caithness, (a) "I Passed By Your Window" (Brahe); (b) "By the Light of the Moon" (Loughborough).

9.15: Selection—Band, "Border Songs and Ballads" (Old Scottish).

9.27: Soprano—Miss Adela Innes, (a) "Just Because the Violets" (Kennedy-Russell); (b) "The Little Brown Owl" (Sanderson).

9.33: Balalaika Orchestra, Gorskaja, (a) "Kasbek"; (b) "Das Bachlein."

9.39: Humour—Mr. Harold Shaw, "Orange Peel" (Milton Hayes).

9.44: Entr'acte—Band, "Evening Bells" (Rimmer).

9.51: Mezzo-soprano—Mrs. J. A. Stewart, (a) "A May Morning" (Denza); (b) "In a Garden" (Hawley).

9.55: March—Band, "Boulder City" (Ord Hume).

10.0 : God save the King.

4YA, DUNEDIN (650 KILOCYCLES)—MONDAY, APRIL 20.

3.0 : Selected recordings.

5.0 : Children's hour, conducted by "Big Brother Bill."

6.0 : Dinner music session:

Royal Opera Orchestra, "Faust" Ballet Music—First-Fourth Movements (Gounod).

San Francisco Symphony Orchestra, "Rosamunde" Entr'acte.

National Symphony Orchestra, "Stradella" Overture (Plotow).

Organ—Reginald Foort, "The Riff Song" (Romberg).

Philadelphia Symphony Orchestra, "Samson and Delilah" Bacchanale.

Victor Olof Sextet, "Cherry Ripe" (Scott).

Royal Opera Orchestra, "Faust" Ballet Music—Fifth-Seventh Movements (Gounod).

Organ—Reginald Foort, "The Desert Song" (Romberg).

Philadelphia Symphony Orchestra, "Damnation of Faust" (Berlioz).

National Military Band, "Ballet Egyptian" (Luigini).

National Symphony Orchestra, "Norma" Overture (Bellini).

7.0 : News session.

8.0 : Chimes. Overture—Regal Cinema Orchestra, "Broadway Selection."

8.8 : Chorus and soprano—The Majors, "No, No, Nanette" (Youmans).

8.24: Selection—Pettitt's Sextet, (a) "Lustspiel" (Kela Bela), (b) "Pizzicato" (Thome).

8.36: Bass—Mr. L. M. Cachemaille, "The Mistress of the Master" (Phillips).
Contralto—Miss G. Burt, (a) "Red Sarafan" (Whitshaw), (b) "I Love You So Well" (Whitshaw).

8.45: Cello with orchestral accompaniment, Mr. Lloyd Hunter, (a) "Slumber Song" (Squire), (b) "When Other Lips" (Balfe).

8.53: Quartets—The Majors, (a) "The Cuckoo Sings in the Poplar Tree" (MacFarren), (b) "Annie Laurie" (arr. Bantock).

9.0 : Weather report and station notices.

9.2 : Orchestra and chorus—Debroy Somers Band, "War Marching Songs."

9.10: Tenor—Mr. E. W. Robbins, (a) "Dover Patrol" (Carrington), (b) "Tom Bowling" (Cluttsam).

9.15: Accordion duo—Gellin and Borgstrom, (a) "Firefly" (Leslie), (b) "Snow Waltz" (Nicholls).

9.21: Soprano—Miss Freda Elmes, "The Last Rose of Summer" (Moore).

9.25: Selections—Pettitt's Sextet, (a) "Sunny" (Kern), (b) "Piano Panic."

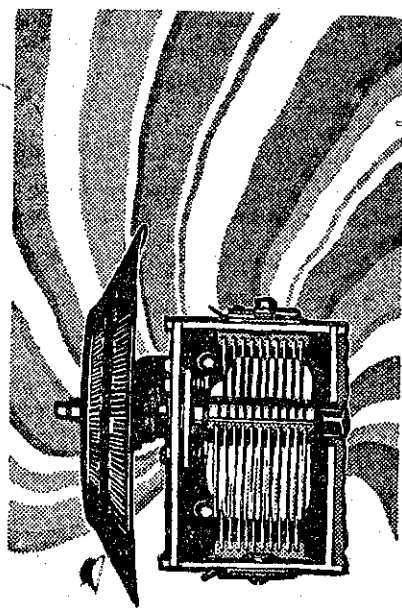
9.39: Chorus and baritone—The Majors, "No, No, Nanette" (Youmans).

9.51: Concert waltz—Pettitt's Sextet, "Blue Danube" (Strauss).

9.58: March—Band of Royal Belgian Guards, "Sans Peur" (Prevost).

10.4 : God save the King.

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2YB, NEW PLYMOUTH (1230 KILOCYCLES)—MONDAY, APRIL 20.

- 8.30: Children's session.
 7.30: News, markets, and information.
 8.0: Studio concert.

Tuesday, April 21.**1YA, AUCKLAND (900 KILOCYCLES)—TUESDAY, APRIL 21.**

- 8.0: Selected recordings.
 8.15: Talk—Mrs. Les. Crane, "Beauty of Mind and Body in Relation to Diet."
 8.30: Further selected recordings.
 5.0: Children's session, conducted by "Uncle Dave."
 6.0: Dinner music session.
 New Light Symphony Orchestra, "Scene de Ballet-Marionettes."
 Berlin State Opera Orchestra, "Polonaise No. 2" (Liszt, arr'd. Buller-Berghaus).
 Marek Weber's Orchestra, "Potpourri of Waltzes" (Robrecht).
 National Symphony Orchestra, "Fra Diavolo" Overture (Auber).
 Piano—Vladimir de Pachmann, (a) "Mazurka in C Sharp Minor"; (b) "Mazurka in A Minor" (Chopin).
 Trio—De Groot, David Bor, H. M. Calve, "El Religario" (Padilla).
 Band of H.M. Coldstream Guards, "Martha" Selection (Flotow).
 New Symphony Orchestra, "Air on G String" (Bach).
 Marek Weber's Adlon Orchestra, "The Rose Bearer" (Strauss).
 New Light Symphony Orchestra, "Persiflage" (Francis).
 New Symphony Orchestra, "Londonderry Air" (arr. Grainger).
 Trio—De Groot, David Bor, H. M. Calve, "Selection of Hebrew Melodies" (arr. Saunders).
 7.0: News and market reports.
 7.40: Talk—Mr. N. M. Richmond, M.A. (under the auspices of the Workers' Educational Association), "The Problem of Unemployment."
 8.0: Chimes. Overture—Madrid Symphony Orchestra, "Danza Espagnola No. 6" (Granados).
 8.5: Piano and vocal—Misses Edna and Phyllis Tye, mezzo-soprano solo, "Smiles" (Maxwell); piano solos, (a) "Des Abends"; (b) "Soaring" (Schumann); mezzo-soprano solo, "When Dawn Breaks Through" (Haydn Wood).
 8.13: Selections—Reg. Morgan and His Orchestra, (a) "Michaelmas Dance" (from "Robin Hood" Suite) (Bunning); (b) "The Miller's Dance."
 8.22: Tenor—Mr. Denis Sheard, (a) "M'Appari Tutta Mor" (de Flotow); (b) "Trusting Eyes" (Gartner).
 8.29: Saxophone—Mr. C. Hoffman, "Valse Brillante" (Doerer).
 Tone poem—Reg. Morgan and His Orchestra, "Bohemienne" (Baldi).
 8.38: Soprano—Miss Gwladys Edwardes, (a) "In Questa Tomba" (Righini); (b) "Cradle Song" (Schubert).
 8.45: Mr. A. B. Chappell, M.A., "Topical Talk."
 9.0: Evening weather forecast and announcements.
 9.2: Trumpet—Mr. W. Bright, "The Joy Bird" (Barnes).
 9.6: Piano and vocal—Misses Edna and Phyllis Tye, mezzo-soprano solo, "At Dawning" (Cadman); piano solo, "Romance in F Sharp Major" (Schumann); mezzo-soprano solo, "Achal by the Sea."
 9.14: Tenor—Mr. Denis Sheard, (a) "Dreams of Long Ago" (Caruso); (b) "Questa o Quella" (from "Rigoletto") (Verdi).
 9.20: Reg. Morgan and His Orchestra, Excerpt from First Movement of "Unfinished Symphony" (Schubert).
 9.25: Soprano—Miss Gwladys Edwardes, (a) "Turn Thee to Me" (Dvorak); (b) "Goin' Home" (with orchestral accompaniment) (Dvorak).
 9.31: Programme of dance music by Reg. Morgan and His Orchestra.
 11.0: God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—TUESDAY, APRIL 21.

- 8.0: Chimes. Selected gramophone recordings.
 8.15: Lecturette—Mrs. T. W. Lewis, "Fabrics and Fashions."
 8.30 and 4.30: Sporting results to hand.
 5.0: Children's session, conducted by "Uncle Toby" and "Jumbo."
 6.0: Dinner music session.
 Paul Godwin's Orchestra, "Musical Panorama Medley" (Lincke);
 "Birthday Serenade" (Lincke); "The Spider" Intermezzo (Klose);
 "Tonerna" (Sjoberg); "Wedding Serenade" (Klose); "Butterfly" Intermezzo (Schlenk).
 Violin with orchestra—Paul Godwin's Orchestra, "Serenade" (Tosti).
 Paul Godwin's Orchestra, "Geisha" Medley (Jones); "La Poupee de Nuremberg" Overture (Adam).
 Vienna Schrammel Quartet, "Firefly's Appointment" (Siede).
 Paul Godwin's Orchestra, "Medley Memorial of Strauss' Waltzes."
 Vienna Schrammel Quartet, "Serenade" (Heykens).
 7.0: News session, market reports and sports results.
 7.40: Lecturette by a Representative of the Agricultural Department, "For the Man on the Land."
 8.0: Chimes. Overture—Salon Orchestra (Conductor, Mr. M. T. Dixon), "A Day in Naples" (Byng).
 8.9: Bass—Mr. W. W. Marshall, "Down West Norfolk Way" (Ewing).
 Quartet—Melodie Four, "Smiling Through" (Penn).
 8.16: White Coons Novelty Trio, (a) March "Washington Post" (Souza); (b) Selection, "Home, Sweet Home" (arr. Rodger with variations).

- 8.23: Two pianos—Wilhelm Gross and Walter Kauffmann, "Annen Polka"; "Water Colour Pictures" (Joh. Strauss).
 8.29: Morceau—Salon Orchestra, "Berceuse" (Frini); "Canzonetta" (Frini).
 8.37: Quartet—Melodie Four, "The Blue Danube" (Strauss).
 Tenor—Mr. Sam Duncan with orchestral accompaniment, "Murmuring Breezes" (Jensen).
 8.43: Lute and mandolin—Professor and Maria Calace, "Tarantella."
 8.46: Soprano—Mrs. Isabel Hollands with violin obligato, (a) "The Sunshine of Your Smile" (Ray); (b) "Come Sing to Me" (Thompson).
 8.52: Suite—Salon Orchestra, "Cyrano de Bergerac" (Rosse).
 9.1: Weather report and station notices.
 9.3: Marimba—Green Bros. Marimba Orchestra, (a) "A Bunch of Roses" (Chapi); (b) "Wedding of the Winds" (Hall).
 9.9: Tenor—Mr. Frank Bryant, "Live, Love and Laugh" (Klein).
 9.13: Novelty—White Coons Novelty Trio, Valse "Varonia" (Clapperton); Selection "Darkies' Revels" (arr. Rodger).
 9.19: Chorus—The Jolly Old Fellows, "Ragtime Memories."
 9.25: Suite for two pianos and orchestra—Salon Orchestra, "Carnival of the Animals" (Saint-Saens).
 9.33: Soprano—Mrs. Isabel Hollands with violin obligato, (a) "The Garden of Your Heart" (Dorel); (b) "Little Grey Home in the West."
 9.39: Lute—Professor Calace, "Reverence Gavotte" (Calace).
 9.42: Baritone—Mr. R. S. Allwright with orchestral accompaniment, "Thora." Quartets—Melodie Four, (a) "The Owl and the Pussy Cat" (de Koven); (b) "An Evening's Pastorale" (Shaw).
 9.50: Instrumental—Salon Orchestra, "Latest Dance Novelties."
 10.0: God save the King.

3YA, CHRISTCHURCH (930 KILOCYCLES)—TUESDAY, APRIL 21.**SILENT DAY.****4YA, DUNEDIN (650 KILOCYCLES)—TUESDAY, APRIL 21.**

- 8.0: Selected recordings.
 5.0: Children's session, conducted by "Wendy" and "Big Brother Bill."
 6.0: Dinner music session:
 Grand Symphony Orchestra, "Raymond" Overture (Thomas).
 Edith Lorand Orchestra, "Wine, Women, and Song" (Strauss).
 Orchestra Mascotte with Edith Lorand, "Siren Magic" (Waldteufel).
 Orchestra of the Opera Comique, Paris, "Scenes Pittoresques: (a) "Marche," (b) "Fete Boheme" (Massenet).
 Dr. Ormandy's Instrumental Trio, "Barcarolle" (Offenbach).
 Edith Lorand's Orchestra, "Minuet" (Boccherini).
 Edith Lorand's Trio, "Trio" (Goldmark).
 Edith Lorand's Orchestra, "Tales from the Vienna Woods" (Strauss).
 The Royal Music-Makers, "Ah! Sweet Mystery of Life."
 Orchestra Mascotte with Edith Lorand, "I'd Like to Kiss the Ladies."
 Edith Lorand's Orchestra, "Toreador and Andalous" (Rubinstein).
 "Roses of the South" (Strauss).
 Dr. Ormandy's Instrumental Trio, "From the Land of the Sky-Blue Water" (Cadman).
 The Royal Music-Makers, "Kiss Me Again" (Herbert).
 7.0: News session.
 7.40: Talk—Mr. Lloyd Ross, M.A., LL.B., under auspices of the W.E.A., "The Metropolis Series" No. 1 ("Old and New in Vienna").
 8.0: Chimes. Studio programme to be rendered by the Dunedin Tramways Band, under the conductorship of Mr. Chas. T. Morgan, assisted by 4YA artists.
 March—Band, "Marine Artillery" (Rimmer); waltz, "Molly Green Waltzes" (Hume).
 8.12: Soprano—Miss Pearl O'Neill, "Welcome, June" (Lockton).
 8.15: Novelty—Stern's Mouth-Organ Band, (a) "The Night" (Abt), (b) "Brownies' Parade" (Noack).
 8.21: Vocal duet—Miss M. Stokes and Mr. N. C. Gamble, "The Venetian Song" (Tosti).
 8.24: Selection—Band, "La Favorita" (Donizetti).
 8.33: Humorous sketch—Mr. J. B. McConnell, "An Old Bachelor" (Chevallier).
 8.39: Violin—Miss Thelma Lupp, "Tempo di Minuetto" (Kreisler).
 8.43: Contralto—Miss M. Stokes, (a) "I Will Make You Brooches" (Peel), (b) "Trees" (Rabach).
 8.49: Characteristic—Band, "In a Persian Market" (Ketelbey).
 8.57: Bass—Mr. W. B. Lambert, (a) "Crown of the Year" (Martin), (b) "The Windmill" (Nelson).
 9.3: Weather report and station notices.
 9.5: Novelty—Berlin Mandolin and Lute Orchestra, (a) "Blue Danube" (Strauss), (b) "Santiago" (Corbin).
 9.10: Vocal duet—Miss M. Stokes and Mr. N. C. Gamble, "Oh! Wert Thou in the Cauld Blast" (Mendelssohn).
 Baritone—Mr. N. C. Gamble, (a) "I Will Not Grieve" (Schumann), (b) "All Through the Night" (Welsh air).
 9.19: Selection—Band, "Bohemian Girl" (Balfe).
 9.29: Humour—Mr. J. B. McConnell, "The Caretaker" (Anon.).
 9.34: Violin—Miss Thelma Lupp, (a) "Bolero" (Bohm), (b) "Phantom Melody" (Ketelbey).
 9.41: Soprano—Miss Pearl O'Neill, (a) "The Man Who Brings the Sunshine" (Cooper), (b) "Comin' Thro' the Rye" (traditional).
 9.47: Trombone with band—(a) "The Parachute" (Sutton); waltz (b), "Down the Valley of Golden Dreams" (Shilkret).
 9.53: Bass—Mr. W. B. Lambert, "Myself When Young" (from "Persian Garden"—Lehmann).

9.58: March—Band, "The Road King" (Greenwood).
10.2: God save the King.

Wednesday, April 22

1YA, AUCKLAND (900 KILOCYCLES)—WEDNESDAY, APRIL 22.

8.0: Selected recordings.
8.15: Literary selection.
8.30: Further selected recordings.
5.0: Children's session, conducted by "Uncle Reg."
6.0: Dinner music session.
Royal Albert Hall Orchestra, "Carmen Prelude, Act 1" (Bizet).
National Symphony Orchestra, "Sylvia Ballet Cortege de Bacchus."
Organ—Reginald Foort, "Schon Rosmarin" (Kreisler).
Marek Weber's Orchestra, "Vienna by Night" (Komzak).
Cello—Lauri Kennedy, "Hungarian Rhapsody" (Popper).
New Mayfair Orchestra, "Sons o' Guns" Selection.
National Symphony Orchestra, "Bohemian Girl" Selection (Balfe).
Royal Albert Hall Orchestra, "Carmen Prelude, Act 2" (Bizet).
Organ—Reginald Foort, "A Brown Bird Singing" (Haydn Wood).
Paul Godwin's Orchestra, "Song of My Dreams" (Friml).
Royal Opera Orchestra, "Hungarian Dance No. 5" (Brahms).
Band of H.M. Coldstream Guards, "H.M.S. Pinafore" Selection.
7.0: News and market reports.
7.40: Talk—Mr. Norman Kerr, "Physical Culture."
8.0: Chimes. March—The Birkenhead Municipal Band, conducted by Lieut. J. T. Lighton, "The Flying Squad" (Hume); Selection "Hamlet."
8.17: Vocal—The Orpheus Quartet, Excerpts from the Musical Comedy "The Quaker Girl" (Monckton).
8.30: Cello—Gaspar Cassado, (a) "Arlequin" (Popper); (b) "Papillon."
8.38: Overture—Band, "The Crimson Star" (Greenwood).
8.44: Vocal—The Orpheus Quartet, Excerpts from the Musical Comedy, "The Quaker Girl" (Monckton).
8.57: Grand Russian Balalaika Orchestra, "Russian Reminiscences."
9.3: Evening weather forecast and announcements.
9.5: March—Band, "Entry of the Gladiators" (Fuehl); Waltz, "Casino Tanze" (Gungl).
9.19: Vocal—The Orpheus Quartet, Excerpts from the Musical Comedy, "The Quaker Girl" (Monckton).
9.33: Organ—Quentin Maclean, "Rhapsody in Blue" (Gershwin, arr. Maclean).
9.41: Selection—Band, "Pirates of Penzance" (Sullivan); Waltz, "Little Dark Eyes" (Laski).
9.57: Male chorus—The Border Singers, "Sir Harry Lauder Songs."
9.59: March—Band, "Trafalgar" (Zehle).
10.3: God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—WEDNESDAY, APRIL 22.

8.0: Chimes. Selected gramophone recordings.
3.30 and 4.30: Sporting results to hand.
5.0: Children's session, conducted by "Aunt Daisy."
6.0: Dinner music session.

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INTERNATIONAL RADIO CO.

22 BLAIR ST., WELLINGTON.

Paul Godwin's Orchestra, "The Jolly Robbers" Overture (Suppe);
"Stephanie Gavotte" (Czibulka); "Feldblumen" (Westling); "Suite Ballet" (Poppy), (1) Entree Mazurka; (2) Pizzicatti; (3) Valse Lente; (4) Largo; (5) Final Galop; "Avant de Mourir" (Boulangier); "Moonlight" (Massenet); "Coppelia Ballet Fantasy."
State Opera Orchestra, Berlin, "Othello Ballet" (Verdi); "La Dame Blanche" (Bolidieu); "Turkish March" (Mozart).
Paul Godwin Quintet, (a) "Popular Song"; (b) "Tale" (Komzak).

7.0: News session, market reports and sports results.

8.0: Chimes.

Dr. Ormandy and His Salon Orchestra.

International Singers.

The Ambassadors of Melodyland.

Abroad with the Lockharts.

Weather report.

International talk—Dr. Guy H. Scholesfield, O.B.E.

Hy-Wide and Handsome.

Nat Brusiloff and His Lido Venice Orchestra.

God save the King.

3YA, CHRISTCHURCH (980 KILOCYCLES)—WEDNESDAY, APRIL 22.

3.0: Gramophone recital.

4.25: Sports results.

5.0: Children's hour, "Uncle John."

6.0: Dinner music session.

Finck's Orchestra, "Gaiety Echoes" (Caryll-Monckton).

Sandler's Orchestra, "Las Lagarteranas" (Guerrero and Foulkes).

Regal Salon Orchestra, "Memories of Beethoven."

J. H. Squire's Celeste Octet, "Everybody's Melodies" (arr. Squire).

Organ—John Hassel, "By the Waters of Minnetonka" (Lieurance).

Sandler's Orchestra, "Raphaellito" (Guerrero and Foulkes).

Dinicu and His Orchestra, "Adoration" Tango (Bianco).

Regal Cinema Orchestra, "Broadway" Selection (Gottler).

Romani and Italian Orchestra, "Old Comrades March" (Telke).

Berlin State Orchestra, "Die Fledermaus" (Strauss).

Nullo Romani's Orchestra, "Canto al Inverno."

Russian Novelty Orchestra, "Tesoro Mio" (Becucci).

7.0: News session.

7.30: Addington stock market reports.

7.45: Talk—Returned Soldiers' Association, "The Object of Poppy Day."

8.0: Relay from 4YA, Dunedin, of Special Programme being presented at the Dunedin Radio Exhibition.

God save the King.

4YA, DUNEDIN (650 KILOCYCLES)—WEDNESDAY, APRIL 22.

2.30: Official opening of the Dunedin Radio Exhibition at the Early Settlers' Hall, Dunedin, broadcast from 4YA Studio, at the Exhibition Buildings.

3.15: Talk—"Cutting down Clothes for the Children." Arranged by the Home Science Extension Department of Otago University.

5.0: Children's Hour, conducted by the "Aunts" and "Uncles" of 4YA, broadcast from 4YA Studio at the Exhibition Buildings.

6.0: Dinner music session.

New Mayfair Orchestra, "Sally" Selection (Kern).

Organ—Sandy Macpherson, "L'Herue Bleu" (Spolianski).

New Mayfair Dance Orchestra, "Hungarian Medley" (arrgd. Somers).

Paul Whiteman and His Concert Orchestra, "Midnight Reflections."

Zonophone Salon Orchestra, "Sweet Adeline" (Armstrong).

Paul Whiteman and His Concert Orchestra, "Soliloquy" (Bloom).

Band of H.M. Coldstream Guards, "Florodora" Selection (Stuart).

Organ—Sandy Macpherson, "In an Old World Garden" (Pepper).

Zonophone Salon Orchestra, "In the Shadows" (Finck).

Jack Hylton and His Orchestra, "Memories of Paris" (Padilla).

New Mayfair Dance Orchestra, "Waltz Medley."

The London Palladium Orchestra, "Nautical Moments."

7.0: News session, to be broadcast from the Exhibition.

7.15: Talk—Presented by an officer of the Department of Agriculture, Dunedin, "Basic Importance of Cultivation."

8.0: Chimes. Programme from 4YA Studio at the Exhibition Buildings, by the Dunedin Returned Soldiers' Choir, Mr. Alfred Walmsley's Operatic Party, and an orchestra under the direction of Mr. Max Scherek. R.S.A. Choir Conductor: Mr. John T. Leech. Piano of R.S.A. Choir: Mr. Chas. A. Martin, Mus. Bac.

Selections—The Orchestra, (a) "Polonaise Militaire" (Chopin); (b) Two Extracts from "Peer Gynt" Suite (Grieg): (1) "Morning"; (2) "In the Hall of the Mountain King."

8.11: Chorus—R.S.A. Choir, (a) "Soldiers' Chorus" from "Faust" (Gounod), (b) "Wanderer's Night Song" (Abt); (c) "Night" (Abt).

Metrodyne

RADIO FOR TONE & DISTANCE

WRITE OR CALL AT ROYDS-HOWARD CO. 553 EDLONBO ST. CH. CH.

- 8.19: Piano—Mr. Chas. A. Martin, Mus. Bac. (a) "Minuet" (Paderewski); (b) "Berceuse" (Chopin).
 8.26: Tenor—Mr. John T. Leech, with violin obligato by Miss Eva Judd, "Song of India" (Rimsky-Korsakov).
 8.29: Part song—R.S.A. Choir, (a) "Border Ballad" (Maunder); (b) "O Isis and O Siris" (from "The Magic Flute") (Mozart).
 8.35: Selection—The Orchestra, "Thais" (Massenet).
 8.45: Male Quartet—Members of R.S.A. Choir, (a) "Shenandoah" (trdtl.); (b) "A Little Farm Well-Tilled" (trdtl.).
 Chorus—R.S.A. Choir, (a) "Bacchanalian" (Elliot); (b) "An Evening Pastoral" (Shaw).
 8.56: Violin—Miss Eva Judd, "Slavonic Dance in G Minor."
 9.0: Weather report and station notices.
 9.2: Selected recordings from the studio.
 9.30: Selection—The Orchestra, excerpts from "Le Cid Ballet Music."
 9.42: Operatic presentation by Mr. Alfred Walmsley and party. Mixed Chorus—The Company, (a) "Anvil Chorus From 'Il Trovatore'," with orchestral accompaniment; (b) Barcarolle from "Tales of Hoffman" (Offenbach).
 9.50: Waltz—The Orchestra, "Waltz in D Flat" (Chopin).
 9.53: Mixed Chorus—Mr. Alfred Walmsley and Company, with orchestral accompaniment, (a) "Angelus" from "Maritana" (Wallace); (b) "Toreador Song" from "Carmen" (Bizet).
 10.0: Dance session, to be conducted at Exhibition Hall, and presented by Mr. J. McCaw's Novelty Syncopators.
 Foxtrots—Novelty Syncopators, "Sing, You Sinners" (Coslow), "My Baby Just Cares For Me" (Donaldson), "Anchors Aweigh" (Loffman), "Betty Co-ed" (O'Hagan).
 Scots Humour—Mr. B. Brown, "Doughie the Baker" (Lauder).
 10.16: Foxtrots—Novelty Syncopators, "Little White Lies" (Donaldson), "Rambling Down the Roadway" (O'Hagan), "A Little Love Song" (Cohan), "My Desire" (May).
 10.30: Piano Novelty—Mr. J. Moore-Wilson, "Flapperette" (Greer).
 Waltzes—Novelty Syncopators, "Tis I, Myself" (trdtl. air), "Down the River of Golden Dreams" (Klenner).
 Foxtrots—"Jazan Jaz" (Simons), "It's a Great Life" (Coslow).
 10.46: Scots Humour—Mr. B. Brown, (a) "When I Was Twentyone"; (b) "The Waggle O' the Kilt" (Lauder).
 Foxtrots—Novelty Syncopators, "I'll Be Blue, Thinking of You" (Wirges), "Say a Little Prayer For Me" (Nicholls), "When the Little Red Roses" (Dubin).
 11.0: God save the King.

2YB, NEW PLYMOUTH (1230 KILOCYCLES)—WEDNESDAY, APRIL 22.

- 7.30: News, markets, and information.
 6.30: Children's session.
 8.0: Studio concert.

Thursday, April 23

1YA, AUCKLAND (900 KILOCYCLES)—THURSDAY, APRIL 23.

- 8.0: Selected recordings.
 8.15: Talk—"Teaching Manners." Prepared by the Home Science Extension Department of Otago University.
 9.0: Children's session, conducted by "Peter Pan."
 9.0: Dinner music session.
 Selection—Kaufman's Orchestra, "The Gipsy Baron" (Strauss).
 Waltz—La Vittoria Orchestra, "Wedding of the Winds" (Hall).
 Polydor String Orchestra, "Italiana in Algeria" (Rossini).
 Piccadilly Orchestra, "If Only I Had You" (Davies); "Lolita" (Ferrete), "Charmaine" (Rapee).
 Philharmonic Orchestra, Berlin, "Songs of Love" waltz (Strauss).
 Selection—New Mayfair Orchestra, "This Year of Grace" (Coward).
 Waring's Orchestra, "Ah, Sweet Mystery of Life" (Herbert).
 Polydor String Orchestra, "Les Dragons Des Villars" (Maillart).
 Victor Concert Orchestra, "Minuet in G" (Paderewski); "Amaryllis."
 Piccadilly Orchestra, "Bird Songs at Eventide" (Coates).
 Waltz—International Concert Orchestra, "Blue Danube" (Strauss).
 7.0: News session.
 7.40: Talk—Under the auspices of the New Zealand Manufacturers' Association, "Pickles and Sauces."
 Special programme in commemoration of the Birth of William Shakespeare—presented by the Auckland Dramatic Students, under the direction of Mr. J. F. Montague.
 8.0: Chimes. Suite—Orchestral Octet, under the direction of Mr. Harold Baxter, "As You Like It" (Quilter); (a) "Shepherd's Holiday"; (b) "Evening in the Forest"; (c) "Merry Pranks."
 8.9: Scene—The Auckland Dramatic Students, "Henry IV" (Part 1) Act 3, Scene 2 (Henry IV and Prince Hal); Scene—"Romeo and Juliet" Act 2, Scene 2. (The Balcony Scene—abridged); Vocal—(a) "She Never Told Her Love" (from "Twelfth Night") (Haydn); (b) "Crabbed Age and Youth" (from "The Passionate Pilgrim") (Loomis); Scene—"Troilus and Cressida" Act 3, Scene 3. (Time hath a wallet at his back).
 8.39: H.M. Grenadier Guards, "Fantasia on 17th Century Music".
 8.43: Scene—The Auckland Dramatic Students, "Henry IV" (Part 1) Humorous Scene (adapted from two scenes) (Falstaff, Bardolph and others).

- 8.51: Orchestral Octet—"Shakespearean Sketches" (Rawlinson).
 9.0: Evening weather forecast and announcements.
 9.2: Selection—Orchestral Octet, "Beggar's Opera" (Austin).
 9.10: Scene—The Auckland Dramatic Students, "As You Like It" Act 2, Scene 7. (All the World's a Stage): Vocal—(a) "Let Me The Canakin Clink" (from "Othello"); (b) "Blow, Blow, Thou Winter Wind," from "As You Like It" (Sergeant); Scene—"The Merchant of Venice" Act 3, Scene 2 (The Casket Scene).
 9.32: Suite—Orchestral Octet, "Harvest Time" (Wood); (a) "Dance"; (b) "Interlude"; (c) "Harvest Home."
 9.42: Vocal—The Auckland Dramatic Students, "It Was a Lover and His Lass" (Harley); Scene—"Henry V" Act 4, Scene 3 (Agincourt St. Crispin's Day); Scene, "Macbeth" Act 5, Scene 1 "The Sleep-Walking Scene".
 9.56: Suite—Orchestral Octet, "The Village Green" (Baynes); (a) "Morris Dance"; (b) "The Young Lovers"; (c) "The Village Fair."
 10.2: God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—THURSDAY, APRIL 23.

- 8.0: Chimes. Selected gramophone recordings.
 3.15: Lecturette—Miss I. F. Meadows, "Teaching Manners," talk arranged by the Home Science Extension Department of the Otago University
 3.30 and 4.30: Sporting results to hand.
 5.0: Children's session, conducted by "Uncle George" and "Big Brother Jack."
 6.0: Dinner music session:
 March—American Legion Band, "The Conqueror" (Telke).
 Selection—Savoy Orpheans, "Lido Lady" (Rodgers).
 New Light Symphony Orchestra, "Rustic Wedding Symphony."
 Victor Olof Sextet, "To a Water-Lily" (Macdowell).
 Berlin State Opera Orchestra, "The Caliph of Bagdad" (Boildieu).
 New Light Symphony Orchestra, "Spanish Dance" (Moszkowski).
 Organ—Reginald Foort, "Just Like a Darby and Joan" (Gilbert).
 Jack Hylton's Orchestra, "The Selfish Giant" (Coates).
 Victor Olof Sextet, (a) "To a Wild Rose," (b) "In Autumn."
 Violin and organ—De Groot and Terence Casey, "Parted" (Tostl).
 Victor Symphony Orchestra, "Dance of the Hours" (Ponchielli).
 Organ—Reginald Foort, "Love Lies" (Kellard).
 March—American Legion Band, "Iowa Corn Song" (arr. Beeston).
 7.0: News session, market reports and sports results.
 7.40: Lecturette—Mr. W. B. Priestley, "Modern Ballroom Dancing."
 8.0: Chimes. Overture—San Francisco Symphony Orchestra, "A Midsummer Night's Dream" (Mendelssohn).
 8.12: Mezzo-soprano—Miss Mavis Castle, (a) "I Know a Bank" (Martin Shaw), (b) "When Daisies Pied" (Arne).
 8.19: Elocutionary—"Julius Caesar," Act 3, Scene 1 (Shakespeare); action takes place after the assassination of Caesar. Characters—Marcus Brutus, Mr. B. Cahill; Marcus Antonius, Mr. W. J. Mountjoy, jun.; Cassius, Mr. Clement May; Casca, Mr. Jack Storr; Trebonius, Mr. Errol Muir; Decius Brutus, Mr. Cedric Muir; Servant to Antony, Mr. C. H. Arndt; Servant to Octavius, Mr. H. G. Bennett.
 8.35: Instrumental trio—Messrs. Norman Izett, W. and S. McLean, "Morris Dance," "Shepherd's Dance" (German).
 Cello—Mr. S. McLean, "Rustic Dance" (German).
 Trio—Messrs. Norman Izett, W. and S. McLean, "Torch Dance" from "Henry VIII." (German).
 8.46: Elocutionary—"Romeo and Juliet," Act 3, Scene 1 (Shakespeare). Characters—Benvolio, Mr. B. Cahill; Mercutio, Mr. John Storr; Tybalt, Mr. Errol Muir; Romeo, Mr. Clement May.
 9.1: Weather report and station notices.
 9.3: Duets—Misses Mavis and Mona Castle, (a) "It Was a Lover" (from "As You Like It") (Walshew), (b) "Shepherd's Dance" (German).
 9.10: Elocutionary—"Macbeth" (Shakespeare), Act 1, Scene 7; Act 2, Scene 2, Characters—Macbeth, Mr. John Storr; Lady Macbeth, Miss Madge Thomas.
 9.25: Instrumental trio—Messrs. Norman Izett, W. and S. McLean, "Prelude," "Intermezzo," "Oriental March," "Doges' March" from "The Merchant of Venice" (Rosse).
 9.35: Contralto—Miss Mona Castle, "Sigh No More, Ladies" (Keel); "Ophelia's Song" (White); "O, Willow, Willow" (traditional).
 9.41: Elocutionary—"Romeo and Juliet," Act 2, Scene 2 (Shakespeare). Characters—Juliet, Miss Dorothy Miller; Romeo, Mr. Clement May.
 9.56: National Military Band, "Tannhauser March" (Wagner).
 10.0: God save the King.

3YA, CHRISTCHURCH (980 KILOCYCLES)—THURSDAY, APRIL 23.

- 8.0: Gramophone recital.
 3.15: Lecturette—"Teaching Manners," arranged by the Home Science Extension Service, Otago University.
 3.30 (approx.): Gramophone recital (continued).
 4.25: Sports results.
 5.0: Children's hour, "Uncle Frank and Cousin Beatrice."
 6.0: Dinner music session:
 Symphony Orchestra, "Die Fledermaus" (Strauss).
 Paul Godwin's Orchestra, "Japanese Cherry Blossom Festival" (Yoshitomo); "Egyptian March" (Strauss); "The Circus Princess."
 Iija Livschakoff and His Orchestra, "Estrellita" (Ponce, Davis).
 Paul Godwin Orchestra, "Japanese Lantern Dance" (Yoshitomo).
 State Opera Orchestra, Berlin-Charlottenburg, "La Gazza Ladra."

- Paul Godwin Orchestra, "Spring's Awakening" (Bach).
 Ilja Livschakoff and His Orchestra, "Pas des Escharpes" (Chaminade).
 Paul Godwin and His Orchestra, "Third Waltz Medley" (Robrecht).
- 7.0 : News session.
- 7.30 : Talk—Mr. C. E. Poweraker, M.A., M.N.Z.I.F., under the auspices of the Forestry League (Canterbury Branch), "Forestry."
- 8.0 : Relay from 4YA, Dunedin—Special Dunedin Radio Exhibition programme.
- 9.30 : Dance music programme from the studio:
 Foxtrots—Cova Cavaliers, "Right or Wrong, I'm Still in Love with You" (Gillespie).
 New Yorkers, "Go Get 'Em, Caroline" (Cremare).
 Cova Cavaliers, "Have a Little Faith in Me" (Lewis).
 New Yorkers, "Love" (Goulding).
- 9.42 : Waltz—Al Hopkins Buckle-Busters, "Marosovia Waltz" (Belcher).
 Foxtrots—New Yorkers, "Ev'rything's Rosey Now" (Herscher).
 Jack Montrose Orchestra, "Egypt" (Costello).
 New Yorkers, "Harmonica Harry" (Phil Baxter).
- 9.54 : Vocal—Mildred Grizelle, "Under the Spell of the Moon" (Unger).
- 9.57 : Foxtrots—Zenith Knights, "Should I?" (Freed).
 Cova Cavaliers, "Those Old Sweethearts of Mine" (Menzi).
 Zenith Knights, "My Blue Ridge Mountain Home."
 Cova Cavaliers, "Like a Dream" (Rose).
- 10.9 : Polka—Al Hopkins and His Buckle-Busters, "Polka Medley."
 Foxtrots—Carl Fenton and His Orchestra, "Sing, You Sinners."
 Zenith Knights, "We'll Be Married in June" (Marchini).
 George Posnack and Orchestra, "Black Horse" (Tarto).
- 10.21 : Vocal—Tommy Weir, "Waiting Through the Night" (Smolev).
- 10.24 : Foxtrots—Broadway Players, "Watching My Dreams Go By" (Dubin).
 Carl Fenton and His Orchestra, "Keep on the Sunny Side."
 Zenith Knights, "Where the Golden Daffodils Grow" (Kahn).
 George Posnack and Orchestra, "Whip-poor-will" (De Voll).
- 10.36 : Waltz—Eight Radio Stars, "Always in My Heart" (Drew Perry).
 Foxtrots—Carl Fenton and His Orchestra, "Apart From You."
 The New Yorkers Orchestra, "Because I'm Lonesome."
- 10.45 : Vocal—Mildred Grizelle, "So Sympathetic" (Kahn).
- 10.48 : Foxtrots—Cova Cavaliers, "Telling It to the Daisies" (Young).
 Carl Fenton and His Orchestra, "Exactly Like You" (Field).
 George Dobkins and His Orchestra, "Love Me in My Dreams"
 The New Yorkers Orchestra, "Ro-ro-rolling Along" (Moll).
- 11.0 : God save the King.

4YA, DUNEDIN (650 KILOCYCLES)—THURSDAY, APRIL 23.

- 3.10 : Selected recordings.
- 3.30 : Presentation from 4YA Studio at the Radio Exhibition Buildings of Concert by Leading Artists, arranged by the Bristol Piano Co., Dunedin.
- 4.30 : Selected recordings.
- 6.0 : Children's Party and Entertainment, broadcast from the Exhibition Buildings, in which the "Aunts" and "Uncles" of 4YA will participate.
- 7.45 : Selected recordings from the studio.
- 8.0 : Chimes. Selections by the St. Kilda Band, under the conductorship of Mr. Jas. Dixon, assisted by 4YA Artists, broadcast from 4YA Studio at the Exhibition Buildings.
- March—Band, "Allendale" (Greenwood); Waltz, "Syringa" (Taylor).
- 8.12 : Mixed quartet—The Harmonists, with Trio Accompaniment, (a) "Come to the Fair" (Martin); (b) "The Vicar of Bray" (Trad'l).
 Bass—Mr. Wilfred Kershaw, with Instrumental Trio Accompaniment, "Young Deitrich" (Hensshel).
- 8.21 : Selection—Band, "Egmont" Overture (Beethoven).
- 8.30 : Mixed quartet—The Harmonists, with Trio Accompaniment, (a) "Scots Wha Hae" (Trad'l); (b) "Annie Laurie" (Trad'l).
- 8.35 : Recordings from studio.
- 9.0 : Weather report and station notices.
- 9.2 : Novelty—Banjo Band, "Sunny South" (Cammeger).
- 9.9 : Soprano—Miss Mae Matheson, with Trio Accompaniment, (a) "Always in All Ways" (Whiting); (b) "Beyond the Blue Horizon" (Whiting) (Two songs from "Monte Carlo").
- 9.15 : Novelty—Banjo Band, (a) "Here They Come" (Weidt); (b) "Mountain Laurel" (Allen); (c) "University of Dayton" (Barella).
- 9.27 : Recordings from the studio.
- 9.52 : Descriptive selection—St. Kilda Band, "A Sailor's Life" (Cope).
- 10.4 : Mixed quartet—The Harmonists, with Trio Accompaniment, (a) "The Wearing of the Green"; (b) "Off in the Stilly Night" (Trad'l).
- 10.9 : Cornet duet—Band, "Ida and Dot" (Losey).
- 10.13 : Bass—Mr. Wilfred Kershaw, with Trio Accompaniment, (a) "The Lute Player" (Allitsen); (b) "She Alone Charmeth My Sadness."
- 10.19 : Prelude—Band, "Prelude in G Sharp Minor" (Rachmaninoff).
- 10.23 : Plantation choruses—The Harmonists, with Trio Accompaniment, (a) "De Ole Banjo" (Gatty); (b) "Goodnight" (Shine, Shine Moon).
- 10.29 : March—Band, "Cavalry of the Clouds" (Alford).
- 10.33 : God save the King.

Friday, April 24

4YA, AUCKLAND (900 KILOCYCLES)—FRIDAY, APRIL 24.

- 3.0 : Selected recordings.
- 4.15 : Literary selection.

- 3.30 : Further selected recordings.
- 5.0 : Children's session, conducted by "Nod" and "Aunt Jean."
- 6.0 : Dinner music session.
 Dajos Bela Orchestra, "I Pagliacci" Selection (Leoncavallo).
 Frank Westfield's Orchestra, "The Druid's Prayer" (Davson).
 Orchestra of the Opera Comique, Paris, "Carmen" Overture (Bizet).
 Edith Lorand Orchestra, "Tales of Hoffmann" Fantasia (Offenbach).
 Grand Symphony Orchestra, "L'Arlesienne Suite, No. 1." (a) "Minuet"; (b) "Adagietto" (Bizet).
 Organ—F. Rowland-Tims, "Melody" (Dawes).
 Dajos Bela Orchestra, "La Traviata" Fantasia (Verdi).
 Grand Symphony Orchestra, "L'Arlesienne Suite, No. 2." (a) "Intermezzo"; (b) "Tarandole" (Bizet).
 Edith Lorand Orchestra, "Cavalleria Rusticana" Fantasia (Mascagni).
 Orchestra of the Opera Comique, Paris, "Carmen" Entr'acte (Bizet).
 Frank Westfield's Orchestra, "Neapolitan Nights."
- 7.0 : News and market reports.
- 7.40 : Talk—Mr. Eliot R. Davis, "Pig Industry."
- 8.0 : Chimes. Overture—B.B.C. Wireless Symphony Orchestra, "H.M.S. Pinafore Selection" (Sullivan).
- 8.9 : Cello—Mr. George Martinengo, "Operatic Selection" (arr. Martinengo); Baritone, "Yearning, Yet Loving" (Marzials).
- 8.16 : English concertina—Mr. Robert McKnight, Fantasia on "The Harp That Once" (Farmer).
- 8.20 : Contralto—Mrs. B. Jellard, (a) "Happy Summer Song" (Kahn); (b), "One Morning Very Early" (Sanderson).
- 8.26 : Selection—Barry Ingall's Hawaiian Quartet, (a) "Hawaiian Nights" (Lea and Roberts); (b) "The Rosary" (Nevin).
- 8.33 : Scottish song and humour—The Twa Maes, (a) "The Boss o' the Hoose"; (b) "When I Was Twenty-one"; (c) "Sound Advice."
- 8.53 : Two pianos—Wilhelm Gross and Walter Kauffmann, "Shimmy and Tango" (from "Baby in the Bar") (Gross).
- 9.0 : Evening weather forecast and announcements.
- 9.2 : Selection—Barry Ingall's Hawaiian Quartet, (a) "Aloha Chimes" (Elener); (b) "Aloha Land" (Herzer).
- 9.9 : Baritone—Mr. George Martinengo, "The Sailor's Paradise" (Richards).
- 9.13 : Piano—Mr. Eric C. L. Bell, (a) "Nocturne in E Flat" (Chopin); (b) "Valse de la Reine" (Coleridge-Taylor); (c) "Celtic Legend" (Duncan); (d) "Devotion" (Schumann).
- 9.25 : Dialogue—Clapham and Dwyer, "On Photography."
- 9.31 : Contralto—Mrs. B. Jellard, (a) "My Treasure" (Trevalsa); (b) "My Secret" (Blumenthal).
- 9.37 : English concertina—Mr. Robert McKnight, (a) Concert Valse—"Ah, Che Assorta" (Venzano, arr. Casey); (b) "The Billboard March."
- 9.44 : Maori choir—Rotorua Maori Choir, (a) "He Poroporo Aki"; (b), "Pou-pou te Marama"; (c) "Nga Hiki o te Ra"; (d) "Pikiatu" (Trad'l).
- 9.52 : Selection—Barry Ingall's Hawaiian Quartet, (a) "Pua Hula" (arr. Ingall); (b) "Song of Hawaii" (Corbett).
- 9.59 : March—Band of H.M. Welsh Guards, "The King's Guard" (Keith).
- 10.0 : God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—FRIDAY, APRIL 24.

- 3.0 : Chimes. Selected gramophone recordings.
- 3.30 and 4.30 : Sporting results to hand.
- 5.0 : Children's session, conducted by "Uncle Jim" and the "Story Book Lady."
- 6.0 : Dinner music session.
 Frank Westfield's Orchestra, "The Belle of New York" Selection.
 Dajos Bela Orchestra, "Strauss, the Waltz King at Home" (Weber); "Ideale" (Tosti).
 Edith Lorand Orchestra, "Rustle of Spring" (Sinding).
 Berlin State Opera House Orchestra, "Wine, Women and Song" Waltz.
 Dajos Bela Orchestra, "Viennese Life" Waltz (Translateur).
 Victor Olof Salon Orchestra, "Grieg Selection" (arr. Urbach).
 Dajos Bela Orchestra, "Serenade" (Moszkowski); "Traumideale."
 Edith Lorand Orchestra, "Ich Liebe Dich" (Grieg).
 Frank Westfield's Orchestra, "Our Miss Gibbs" Selection (Monckton).
- 7.0 : News session, market reports and sports results.
- 7.40 : Lecturette—Mr. A. E. Wilson, "Tourist and Holiday Resorts."
- 8.0 : Chimes. Note—This programme is subject to interruption to permit of a relay of a Sound Film Feature from the Majestic Theatre.
 Overture—2YA Orchestra (Conductor, Signor A. P. Truda), "The Scarlet Crow" (Benner).
- 8.9 : Baritone—Mr. Rex Harrison, (a) "The Temple Bells" (Woodforde-Finden); (b) "Less Than the Dust" (Woodforde-Finden).
- 8.15 : Novelty duo—Messrs. Lad Haywood and Billy Hart, (a) "Kiss Waltz" (Dubin and Burke); (b) "Sweet Jennie Lee" (Donaldson).
- 8.21 : Mezzo-soprano—Miss Ella Fair, with violin obligato, (a) "Who is Sylvia?" (Schubert); (b) "The Blacksmith" (Brahms).
- 8.26 : Selection—2YA Orchestra, "Lady Be Good" (Gershwin).
- 8.34 : Humour—Mr. W. J. McKeon, "If Life Were a Play" (Townshend).
- 8.38 : Baritone—Mr. Rex Harrison with orchestral accompaniment, (a) "Nelson's Gone a' Sailing" (Lohr); (b) "So Fair a Flower" (Lohr); (c) "Invictus" (Huha).
- 8.48 : Suite—2YA Orchestra, "Hyde Park Suite" (Jalowiec).
- 8.56 : Mezzo-soprano—Miss Ella Fair, with violin obligato, "Bird of Blue."
- 9.0 : Weather report and station notices.
- 9.2 : Serenade—2YA Orchestra, "La Paloma" (Yradier); Morceau, "Simple Aveu" (Thome); Intermezzo, "Spring Song."

- 9.10: Humour—Mr. W. J. McKeon, (a) "Blood Orange" (Pond); (b) "The Boy in the Gallery" (Anon).
 9.15: Novelty duo—Messrs. Lad Haywood and Billy Hart, (a) "Confessin' That I Love You" (Reynolds); (b) "Latest Popular Hit."
 9.22: Foxtrot—2YA Orchestra, "Louisiana Bo Bo" (Nixon).
 9.30: Dance programme.
 Foxtrots—Ben Bernie and His Orchestra, "I'm Yours" (Harburg).
 Jacques Renard and His Orchestra, "Loving You the Way I Do" (Scholl).
 Ben Bernie and His Orchestra, "Confessin'" (Neilburg).
 Earl Burnett and His Los Angeles Biltmore Hotel Orchestra, "Just a Little Dance, Mam'selle" (O'Flynn).
 9.42: Waltz—Abe Lyman and His California Orchestra, "This is Love."
 Foxtrots—Isham Jones' Orchestra, "Sweet Jennie Lee" (Donaldson).
 Jacques Renard and His Orchestra, "Lucky Seven" (Dietz).
 9.51: Vocal—Wendell Hall, "Underneath the Mellow Moon" (Hall).
 9.54: Foxtrots—Ozzie Nelson and His Orchestra, "I Don't Mind Walkin' in the Rain" (Rich).
 Isham Jones' Orchestra, "In My Heart It's You" (O'Flynn).
 Earl Burnett and His Los Angeles Biltmore Hotel Orchestra, "I Wonder How it Feels" (Sherman).
 10.3: Jacques Renard and His Orchestra, "Sing Something Simple" (Hupfeld); "Can This Be Love?" (James).
 10.9: Vocal—Jessica Dragonette, "When You're Away" (Blossom).
 10.12: Foxtrots—Isham Jones' Orchestra, "I'll Be Blue, Just Thinking of You" (Whiting).
 Meyer Davis' Hotel Astor Orchestra, "Looking for the Love-light in the Dark" (Dubin).
 Earl Burnett and His Los Angeles Biltmore Hotel Orchestra, "Little White Lies" (Donaldson).
 10.21: Waltz—Castlewood Marimba Band, "When the Organ Played at Twilight" (Wallace).
 10.24: Foxtrots—Ozzie Nelson and His Orchestra, "I Still Get a Thrill."
 Meyer Davis' Hotel Astor Orchestra, "As Long as I Have You" (Dubin Burke).
 Tom Gerun and His Orchestra, "A Big Bouquet for You."
 Vocal—Wendell Hall, "Land of My Sunset Dreams" (Hall).
 10.30: Foxtrots—Tom Gerun and His Orchestra, "Sing" (Johnson).
 Tom Gerun and His Orchestra, "If I Could Be With You" (Creamer); "Wasting My Love on You" (Leslie).
 Earl Burnett and His Los Angeles Biltmore Hotel Orchestra, "Sweetheart of My Student Days" (Kahn).
 10.48: Waltz—Castlewood Marimba Band, "Moonlight on the Colorado."
 10.51: Foxtrots—Isham Jones' Orchestra, "Don't Tell Her" (de Sylva); "Good Evenin'" (Seymour); "My Baby Just Cares For Me."
 11.0: God save the King.

3YA, CHRISTCHURCH (980 KILOCYCLES)—FRIDAY, APRIL 24.

- 4.0: Gramophone recital.
 4.25: Sports results.
 5.0: Children's hour, "Chuckle."
 6.0: Dinner music session:
 Herman Finck and His Orchestra, "Waldteufel Memories" (arr. Finck).
 Circolo Mandolinistico, "Torna a Surriento" (De Curtis).
 Symphony Orchestra, "Morgen Blatter" (Strauss).
 B.B.C. Wireless Military Band, "Dance of the Tumblers" (Korsakov).
 J. H. Squire's Celeste Octet, "Funeral March of a Marionette."
 Plaza Theatre Orchestra, "Pearl o' Mine" (Fletcher).
 J. H. Squire's Celeste Octet, "Peter Pan" Selection (Crook).
 New Concert Orchestra, "Nights of Fragrance" (Ziehrer).
 Squire's Celeste Octet, "Air on G String" (Bach).
 Plaza Theatre Orchestra, "Bai Masque" (Fletcher).
 Circolo Mandolinistico, "Stephanie Gavotte" (Ozibulka).
 B.B.C. Wireless Military Band, "Golliwog's Cake-Walk" (Debussy).
 New Concert Orchestra, "Vienna Maidens" (Ziehrer).
 Bournemouth Municipal Orchestra, "Crown Diamonds" Overture.
 7.0: News session.
 8.0: Relay from 4YA, Dunedin, special programme being presented at the Dunedin Radio Exhibition.
 God save the King.

4YA, DUNEDIN (650 KILOCYCLES)—FRIDAY, APRIL 24.

- 11.0: Selected recordings.
 3.30: Programme by leading artistes, arranged by McCracken and Walks, Dunedin, and broadcast from Radio Exhibition.
 4.30: Selected recordings.
 5.0: Children's hour, conducted by the "Aunts" and "Uncles" of 4YA, broadcast from 4YA Studio at the Radio Exhibition.
 6.0: Dinner music session.
 Edith Lorand's Orchestra, "Johann Strauss' Fantasia (Strauss).
 Grand Symphony Orchestra, "Tales of Hoffman—Barcarolle."
 Edith Lorand's Orchestra, "The Flowers' Dream" (Translateur); "Faust" Fantasia (Gounod); "Wedding of the Winds" (Hall).
 Blackstone Trio, "Silver Threads Among the Gold" (Danks).
 Berlin State Opera Orchestra, "Italiana in Algeria" (Rossini).
 'Cello—Orabio de Castro, "Nocturne in E Flat" (Chopin).
 Grand Symphony Orchestra, "Fra Diavolo" (Auber).
 Blackstone Trio, "Love's Old Sweet Song" (Molloy).
 Grand Symphony Orchestra, "Tales of Hoffman—Entr'acte and Minuet" (Offenbach).

- Edith Lorand's Orchestra, "Song of Autumn" (Waldteufel).
 7.0: News session, broadcast from Exhibition Buildings.
 8.0: Chimes. Concert Programme from 4YA Studio at the Exhibition Buildings.
 Overture—The Orchestra (Conductor, Mr. Max Scherek), "Flying Dutchman" (Wagner).
 8.10: Male quartet—"The Idlers," (a) "Spin, Spin" (Jungst); (b) "Country Courtship" (Karle).
 Bass-baritone—Mr. S. G. Angell, "The Deathless Army" (Trottere, with Orchestra) (arr. G. B. Laidlaw).
 8.19: Selections—The Orchestra, (a) "Celebrated Minuet" (Beethoven); (b) "Expectation Song" (Kuecken); (c) "Minuet" (Mozart).
 8.27: Tenor—Mrs. Taylor, with Trio Accompaniment, (a) "She is Far From the Land" (Lambert); (b) "I Did Not Know" (Trottere).
 8.33: Selection—The Orchestra, Excerpts from "Callirhoe Suite."
 8.40: Selected recordings from studio.
 9.0: Weather report and station notices.
 9.2: Selections—Mr. J. McCaw's Saxophone Band, (a) "Nifty" (Loos); (b) "Lantern Dance" (Nicholls); (c) "Band Boys" (Chenette).
 9.13: Male quartet—"The Idlers," "Old Man Moses" (Hume).
 Bass-baritone—Mr. S. G. Angell with Orchestral Accompaniment, "Death of Nelson" (arr. G. B. Laidlaw).
 9.19: Selections—Saxophone Band, (a) "Powder Rag" (Birch); (b) "Whistling Willies" (Alford).
 Saxophone—Mr. J. McCaw, (c) "Valse Romance" (Bishop).
 9.27: Contralto—Miss Mary Pratt with Orchestral Accompaniment, (a) "Twickenham Ferry" (Marzials); (b) "Out on the Rocks" (Doldy).
 9.33: March—Saxophone Band, "Local Pride" (Urbanck).
 9.36: Selected recordings from the studio.
 10.5: Selection—The Orchestra, "Coppelia Ballet Music" (Delibes).
 10.14: Contralto—Miss Mary Pratt, with Orchestral Accompaniment, "The Sands of Dee" (Clay).
 10.19: Selection—The Orchestra, "Two Woodland Sketches" (MacDowell).
 10.25: Male quartet—"The Idlers" (a) "A Catastrophe" (Sprague); (b) "Bus Conductor" (Kearton).
 10.28: March—The Orchestra, "Turkish March" (Mozart).
 10.32: God save the King.

Saturday, April 25

1YA, AUCKLAND (900 KILOCYCLES)—SATURDAY, APRIL 25.

- 11.0 a.m.: Relay of Anzac Day Service from the Auckland Town Hall.
 2.30 p.m.: Relay of Description of Anzac Day Ceremony from the Cenotaph.
 6.0: Dinner music session:
 Selection—Edith Lorand's Orchestra, "The Vagabond King" (Friml).
 Waltz—Dajos Bela Orchestra, "The Swallows" (Strauss).
 Selection—Frank Westfield's Orchestra, "Chu Chin Chow" (Norton).
 Orchestra—Dajos Bela Orchestra, "O Sole Mio" (arr. Lindeman).
 State Opera Orchestra, Berlin, "Invitation to the Waltz" (Weber).
 Waltzes—Dajos Bela Orchestra, (a) "Oh, Spring, How Fair Thou Art" (Lincke); (b) "Songs d'Amour Apres le Bal" (Ozibulka).
 Dajos Bela Orchestra, "Humoresque" (Dvorak).
 Trio—De Groot, Bor, Kilbez, "Paraphrase of Strauss's Waltzes."
 Dance Orchestra—Dorsey Bros' Orchestra, "Was it a Dream?"
 Waltz—Dajos Bela Orchestra, "Faust" (Gounod).
 8.0: Chimes. Overture—Orchestral Octet, under direction of Mr. Harold Baxter, "Egmont" (Beethoven).
 8.8: Tenor—Mr. Arthur H. Ripley, (a) "Be Thou Faithful" (Mendelssohn); (b) "Oft in the Stilly Night" (traditional).
 8.15: 'Cello and organ—Hans Bottermund, "Thou Art Repose" (Schubert).
 8.19: Contralto—Miss Edna M. Peace, (a) "Crossing the Bar" (Wilby); (b) "The Better Land" (Cowen).
 8.25: Morceaux—The Orchestral Octet, (a) "Liebestraume" (Blond); (b) "Meditation" (Glazounov); (c) "In a Kentish Garden" (Rawlinson).
 8.38: Elocution—Miss Joyce Hould, (a) "A Consecration," (b) "August, 1914" (Masefield).
 8.44: Balalaika Orchestra, Gorskaja, (a) "Habe Mitleid Mit Mir," (b) "Zwei Gitarren."
 8.50: Mezzo-soprano—Miss Molly Atkinson, (a) "Dors Mignon" (Grechaninov); (b) "O Fair and Sweet and Holy" (Rubinstein).
 8.56: 'Cello—Miss Lalla Hemus and Orchestral Octet, "Slumber Song."
 9.1: Evening weather forecast and announcements.
 9.3: Tenor—Mr. Arthur H. Ripley, "Sound an Alarm" (Handel).
 9.7: Zither—George Freundorfer, (a) "The Little Pagoda" (Benatzky); (b) "Isar Waves" (Freundorfer).
 9.13: Contralto—Miss Edna Peace, (a) "Come, Ye Blessed" (from "The Holy City"—Gaul); (b) "The Glory of the Sea" (Sanderson).
 9.19: Incidental music—Orchestral Octet, "Joseph and His Brethren."
 9.29: Elocution—Miss Joyce Hould, (a) Extract from "Gallipoli" (Masefield); (b) "Laugh and Be Merry" (Masefield).
 9.35: 'Cello and organ—Hans Bottermund, "Evening Song" (Schumann).
 9.39: Mezzo-soprano—Miss Molly Atkinson, "Hindoo Song" (Bemberg).
 9.43: Male chorus—Erks Male Chorus, "The Linden Tree" (Schubert).
 Berlin Singing Teachers' Union, "What Has Come Over You, Lovely Forest?" (Mendelssohn).
 9.51: Morceaux—The Orchestral Octet, (a) "Chanson de Nuit" (Elgar); (b) "The Vanished Army" (Alford); (c) "Warum" (Tschalkowski).
 10.0: God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—SATURDAY, APRIL 25.

- 11.0 : Relay of the Children's Anzac Day Service from the Cenotaph, Parliament Buildings, Wellington.
- 2.30 (approx.) : Relay from Town Hall of the Anzac Day Next-of-Kin Memorial Service, arranged by the Wellington Returned Soldiers' Association.
- 5.0 : Children's session.
- 6.0 : Dinner music session.
- Paul Godwin's Orchestra, "Polish Temper" (Nedbal).
- Paul Godwin's Trio, "For You" (Czibulka); "Melodie" (Denza).
- Paul Godwin's Orchestra, "Kismet" (Yamada).
- Efim Schachmeister Orchestra, "Dark Eyes" (Schachmeister).
- Paul Godwin Orchestra, "Hearts and Diamonds."
- Paul Godwin Quartet, "Serenata" (Bece); "Adoration."
- Polydor Orchestra, "Berlin As It Laughs and Weeps" (Conradi).
- Paul Godwin's Orchestra, "Love in Idleness" (Macbeth).
- Efim Schachmeister Orchestra, "Kasbek" (Schachmeister).
- Paul Godwin Orchestra, "Short But Delicious" (Schreiner).
- 8.0 : Chimes.—Followed by Relay of the Anzac Day Sacred Concert, under the direction of Mr. H. Temple White, arranged by the Wellington Returned Soldiers' Association.
- 10.0 : God save the King.

3YA, CHRISTCHURCH (980 KILOCYCLES)—SATURDAY, APRIL 25.

- 2.30 : Relay of Citizens' Memorial Service, under the auspices of Canterbury Branch of the Returned Soldiers' Association, from King Edward Barracks. Address by Mr. W. Perry, LL.B. (Dominion Vice-President of the Returned Soldiers' Association). The Christchurch Royal Musical Society will provide the choral music, under the conductorship of Mr. W. H. Dixon. Instrumental music by Christchurch Municipal Band under the conductorship of Mr. J. Noble.
- 6.0 : Dinner music session:
- Orchestral—Boston Symphony Orchestra, "Frühlingstimmen."
- Organ—Jesse Crawford, "Serenade" (Rombert).
- National Military Band, "Ben Hur" (Byng).
- A. and P. Gipsies, (a) "White Acacia," (b) "Petite Causerie" (Stone).
- Vienna Philharmonic Orchestra, "Dorfschwalben" (Strauss).
- International Novelty Quartet, "Teddy Bears' Picnic" (Bratton).
- Jack Hylton and His Orchestra, "Steppin' Out" (Vauchant).
- New Mayfair Orchestra, "Wake Up and Dream" (Porter).
- Organ—Jesse Crawford, "Indian Love Call" (Friml).
- International Novelty Orchestra, (a) "To Die Dreaming," (b) "Four Little Farms."

A. and P. Gipsies, "Herbertiana" (arr. Stone).

Jack Hylton and His Orchestra, "Old-Time Songs."

International Novelty Quartet, "The Skaters" (Waldteufel).

Jack Hylton's Orchestra, "Lonesome Little Doll" (Cowan, Boutejse).

- 7.0 : Relay of Special Anzac Service, under the auspices of the Toc H Movement and the Returned Soldiers' Association, from Christchurch Cathedral. Speaker, Mr. Frank Milner, C.M.G.; organist, Dr. J. C. Bradshaw.

8.15 (approx.) : Orchestral—Association des Concerts Lamoureux, Paris, "Petite Suite" (Debussy): (1) "En Bateau," (2) "Cortège."

8.28 : Baritone—Mr. Sydney Armstrong, (a) "Friendships" (Lohr), (b) "When Other Lips" (Baife).

8.27 : Harp—Mr. H. G. Glaysher, "Va Pensiero" (from "Nabucco"—Verdi).

8.30 : Mezzo-soprano—Miss L. Merle Miller, (a) "I Love Thee" (Grieg), (b) "For Ever and a Day" (Mack), (c) "To Music" (Schubert).

8.37 : Flute and clarinet—Messrs. E. A. Hutton and M. E. Withers, "Romance," Op. 24 (Oscar Klose).

8.42 : Tenor—Mr. Douglas Suckling, (a) "In God's Own Keeping" (Geehl), (b) "Allah Be With Us" (from "A Lover in Damascus").

8.47 : Piano—Lilly Dymont, "Sevilla" (Albeniz).

8.53 : Recital—Mr. Dennis Cow, "Out at Mons" (Hastings).

8.57 : Contralto—Mrs. Tristram Willcox, "Fear Not Ye, O Israel."

9.1 : Weather forecast and station notices.

9.3 : Orchestral—Association des Concerts Lamoureux, Paris, "Petite Suite" (Debussy): (4) "Menuet," (5) "Ballet."

9.11 : Baritone—Mr. Sydney Armstrong, (a) "The Old Clock" (Drummond), (b) "Oft in the Still Night" (words by Moore) (traditional Irish).

9.16 : Harp—Mr. H. G. Glaysher, (a) "Slave" (Gabrielle Verdalle), (b) "Introduction and Fugato" (Cuthbert Harris).

9.23 : Mezzo-soprano—Miss L. Merle Miller, (a) "Somewhere in This Summer Night" (Carew), (b) "Cradle Song" (Kreisler).

9.28 : Violin—H. Solloway, (a) "Caprice No. 1" (Valsey) (b) "Valse Bluetie" (Drigo, Amer).

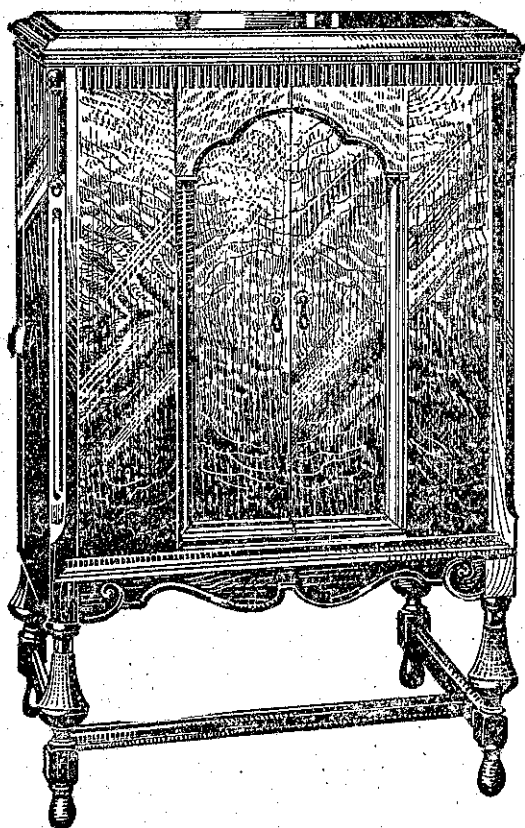
9.34 : Tenor—Mr. Douglas Suckling, (a) "Comrade" (Barnes), (b) "The Sailors of the King" (Byng).

9.40 : Recital—Mr. Dennis Cow, "Young Fellow My Lad" (Service).

9.45 : Flute and clarinet—Messrs. E. A. Hutton and M. E. Withers, "Zweigsprach" (Serenade) Op. 4 (Johan Andre).

9.51 : Contralto—Mrs. Tristram Willcox, (a) "Just for To-day" (Seaver), (b) "The Harvester's Night Song" (Baynton Power).

9.57 : March—Polydor Brass Band, "The Graham-Paige Legion" (Pryer).
God save the King.



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4YA, DUNEDIN (650 KILOCYCLES)—SATURDAY, APRIL 25.

- 10.30: Relay from First Church of Special Anzac Day Service, conducted by Rev. A. Mead, M.A., under auspices of Council of Christian Congregations. Preacher: Rev. D. C. Herron, M.A., M.C. Organist: Dr. V. E. Galway.
- 3.0: Relay from Dunedin Town Hall, of Anzac Day Service to be conducted under the auspices of the Dunedin Returned Soldiers' Association.
- 5.0: Children's hour, conducted by "Aunt Anita."
- 6.0: Dinner music session.
Charles Ancilffe and His Orchestra, "Ancilffe Waltzes" (Ancilffe).
J. H. Squire's Celeste Octet, "Twilight on the Waters" (Squire).
Gill Dech Ensemble, "Italian Nights" (Roberts).
Regal Cinema Orchestra, "Sally" Selection (Burke, Kern).
Organ—Quentin Maclean, "Lily of Laguna" (Stuart).
J. H. Squire's Celeste Octet, "Minuet Sicilienne" (Squire and Hart).
Band of H.M. Grenadier Guards, "Country Dance" (German).
Debroy Somers Band, "Mister Cinders" Selection (Ellis and Myers).
J. H. Squire's Celeste Octet, "The Piccininies' Picnic" (Squire).
Organ—Quentin Maclean, "Little Dolly Daydream" (Stuart).
Albert W. Ketelbey's Concert Orchestra, "The Clock and the Dresden Figures" (Ketelbey).
J. H. Squire's Celeste Octet, "Minuet in D" (Mozart, arr. Willoughby).
Albert W. Ketelbey's Concert Orchestra, "Wedgwood Blue" (Ketelbey).
Gill Dech Ensemble, "Valse Parisienne" (Roberts, arr. Barry).
- 7.0: News session.
- 8.0: Relay of programme from Station 3YA, Christchurch.
- 10.0: God save the King.

Sunday, April 26**1YA, AUCKLAND (900 KILOCYCLES)—SUNDAY, APRIL 26.**

- 3.0: Selected recordings.
- 3.15: Literary selection.
- 3.30: Further selected recordings.
- 6.0: Children's Song Service, conducted by "Uncle Bert."
- 6.55: Relay—Divine Service from the Baptist Tabernacle. Preacher: Rev. Joseph Kemp. Organist and Choirmaster: Mr. Arthur E. Wilson.
- 8.30 (approx.): New Symphony Orchestra, "Children's Overture."
- Baritone—Mr. A. B. Thompson, (a) "A Banjo Song" (Homer); (b) "Uncle Rome" (Homer); (c) "Requiem" (Homer); (d) "Gloriana" (Mallinson).
- Instrumental—The Moore Sisters, Trio, "Chant Sans Paroles" (Tschalkowsky); violin solo—"Meditation" (from "Thais") (Massenet); trios, "Bouree" (Bach); "Nocturnette" (Hope).
- Evening weather forecast and announcements.
- Cello—Hans Bottermund, "Adagio" from "Concerto in D Major."

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WESTINGHOUSE Rectifiers Chancery Street, Auckland.
- BURGESS RADIO BATTERIES, All Radio Dealers.**
- LOFTIN-WHITE AMPLIFIERS Stewart Hardware Ltd.,**
Courtenay Place, Wellington.
- MULLARD VALVES . . . All Radio Dealers.**
- N.Z. DISTRIBUTORS PILOT PARTS AND RECEIVERS, Harrington's, N.Z., Ltd.,**
40-42 Willis St., Wellington.
142 Queen St., Auckland.
INCLUDING PILOT SUPER-WASP and GILFILLAN ELECTRIC RECEIVERS
- RADIOLA RECEIVERS and Farmers' Trading Co., Ltd.,**
Expert Radiola Service. Hobson Street, Auckland.
- STEINITE RADIO (X) G. G. Macquarrie, Ltd.,**
120 Willis St., Wellington.

COUNTRY TOWNS

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- Piano—Mr. Cyril Towsey, "Sonata Pathetique" (Beethoven).
Lyric soprano—Miss Patricia McLeod, (a) "With Verdure Clad" (from "The Creation") (Haydn); (b) "Se Tu M'Ami" (De Fesch); (c) "Tu Fai La Superbetta" (Air with variations) (De Fesch).
Vocal and Instrumental—The Moore Sisters, Trio—"Andante From Norwegian Rhapsody No. 3" (Svendsen); "Mezzo-contralto, "Thou Art Repose" (Schubert); Cello solo—"Spirito Gentile" (from "La Favorita" (Donizetti); Trio, "To The Spring" (Grieg).
Tenor—Mr. Ralph H. Eskridge, (a) "Thank God For a Garden" (Del Riego); (b) "Macushla" (MacMurrough); (c) "Invictus" (Huhn); (d) "I Did Not Know" (Trottere).
State Opera Orchestra, Berlin, "The Magic Flute" (Mozart).
- 10.0: God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—SUNDAY, APRIL 26.

- 3.0: Selected gramophone recordings.
- 6.0: Children's Song Service, conducted by "Uncle George," assisted by the Children's Choir from St. Andrew's Presbyterian Church.
- 7.0: Relay of Evening Service from St. Thomas's Anglican Church. Preacher: Rev. C. V. Rooke. Organist and Choirmaster: Mr. W. A. Gathridge.
- 8.15 (approx.): Relay of Band Recital by the Port Nicholson Silver Band, from the Grand Opera House (Conductor, Mr. J. J. Drew).
God save the King.

3YA, CHRISTCHURCH (980 KILOCYCLES)—SUNDAY, APRIL 26.

- 3.0: Gramophone recital.
- 5.30: Children's Song Service by children from Presbyterian Sunday Schools.
- 6.15: Chimes from studio.
- 6.30: Relay of evening service from St. Paul's Presbyterian Church. Preacher: Rev. W. Bower Black. Organist: Mr. Norman Williams. Choir Conductor: Mr. H. Blakeley.
- 7.45 (approx.): Musical recordings from studio.
- 8.15 (approx.): Court Symphony Orchestra, "The Windmill Man."
- 8.23: Soprano—Miss Cicely Audibert, (a) "A Spring Morning" (Lane Wilson); (b) "Irish—I Really Can't Say" (Alba Rizzi).
- 8.31: Instrumental—Studio Octet (Conductor Harold Beck), (a) "Mazurka" (Saint Saens); (b) "Fingal's Cave" Overture.
- 8.44: Baritone—Mr. Fred C. Penfold, (a) "Requiem" (Homer); (b) "Dawn" (Curran).
- 8.49: Instrumental—Studio Octet, (a) "Turkish March" (Beethoven); (b) "Allegretto" from "1st Symphony" (Beethoven); (c) "In Autumn."
- 8.57: Piano—Michael Zadara, (a) "Prelude in C Major" (Prokofieff); (b) "La Passion" (Lamare).
- 9.3: Weather forecast and station notices.
- 9.5: Male choir—Meinekescher Mannerchor, (a) "Zee Strassbury Auf Der Langen Bruck" (trdtl.); (b) "Weite Des Gesanges" (Mozart).
- 9.11: Two violins—Miss Irene Morris and Mrs. A. H. Billis, "Duet For Two Violins" (Moszkowski).
- 9.14: Contralto—Mrs. S. M. Williamson, (a) "God's Garden" (Lambert); (b) "O Glad Awakening" (Cuthbert Harris).
- 9.19: Band—Polydor Military Band with Male Quartet, "Silent Night."
- 9.22: Soprano—Miss Cicely Audibert, (a) "Coppelia" (Delibes); (b) "Biddy" (Mont Phillips).
- 9.26: Instrumental—Studio Octet, "H.M.S. Pinafore" (Sullivan).
- 9.34: Baritone—Mr. Fred C. Penfold, (a) "Not Understood" (Houghton); (b) "Spanish Gold" (Howard Fisher).
- 9.41: Cello—Maurice Marechal, "Elegie" (Gabriel Faure).
- 9.48: Contralto—Mrs. S. M. Williamson, "Like to the Damask Rose."
- 9.52: Instrumental—Studio Octet, (a) "Jig" (Gustav Holst); (b) "The Dargason" (Gustav Holst).
- 10.0: God save the King.

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The Story of Short-Waves

(Continued from page 1.)

types were developed in France during the war, but the valve system of transmission was used only to a very limited extent by experimenters till about 1922.

About this time development was rapid. Amateurs in the United States conversed from coast to coast using 200 metres and below with much lower power and with much greater freedom from interference than did the commercial stations. Signals from American amateurs were being heard in New Zealand, the first New Zealander to receive definitely an American amateur being Mr. Ralph Slade, who then resided in Timaru.

The 200 metre signals from 6KA were heard by him and confirmed by letter from Los Angeles. Other American stations were heard in large numbers by Mr. Frank Bell at his station at Palmerston North, as well as by the writer in Christchurch. The double honour of being the first to hold two-way communication with the United States, and also with England, went to Mr. Bell, the latter achievement taking place on October 18, 1924.

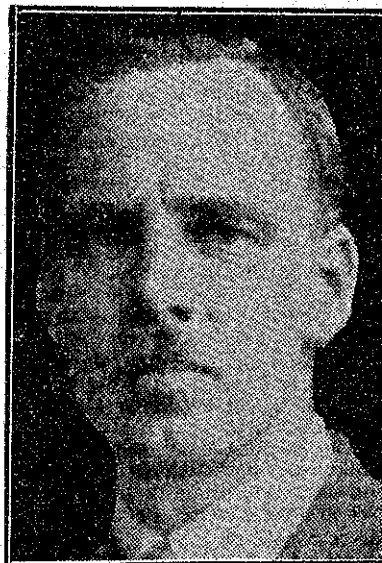
This same day the writer arrived in England with an experimental short-wave transmitter on board s.s. Port Curtis, from which ship two-way communications with Mr. Bell, Mr. Ivan O'Meara, of Gisborne, and other New Zealanders had been conducted during the voyage.

It was with a strange feeling that the writer went to the station of Mr. Cecil Goyder, G2SZ, in London, with which Mr. Bell had been in communication, and on the following morning, when Mr. Goyder again got in touch, spoke back and forth to Mr. Bell in New Zealand with as much ease as if we had been but a short distance apart. This, and all other communications at this time, were conducted in morse code on wavelengths of from 80 to 100 metres. Later, telephony was first transmitted successfully to New Zealand from England by Mr. Gerald Marcuse G2NM, of Caterham in Surrey. International communication between amateurs rapidly became an everyday occurrence as the lower wavelengths of 40, 30 and 20 metres were used.

Interest by Commercial Stations.

IT WAS natural that the attention of commercial interests should be directed to the use of short waves, both for morse communication and for broadcasting over great distances. Many of the larger longwave broadcasting stations in the United States and Europe built experimental short-wave broadcast transmitters, conspicuous among which are the British Broadcasting Corporation's station at Chelmsford, 20 miles from London.

This plant, which uses the call sign G5SW, conducts regularly daily 25-metre transmissions, which are readily heard in New Zealand by owners of shortwave receivers. G5SW relays the programme broadcast by 2LO, London, as well as "Simultaneous" programmes to the other stations transmitted from any one centre in the British Isles. Special events of inter-



MR. J. ORBELL, B.E.

One of New Zealand's foremost radio technicians, who this week contributes a comprehensive article on short-wave. Mr Orbell went to the Antarctic with the Byrd Expedition.

est such as boat races, cricket and Rugby fixtures, special services in St. Paul's or Westminster Abbey, etc., are always broadcast by G5SW specially for reception in the Dominions.

Other European stations have their shortwave transmitters, including the Vatican station in Rome (call sign HVJ), which has recently commenced regular transmissions. This latter is one of the highest-powered shortwave

stations in the world, utilising 50 kilowatts, which, if necessary, can be stepped up to 100 kilowatts. PCJ, in Holland, transmits programmes regularly for Australia and New Zealand. In the United States, the American General Electric Company's shortwave stations are heard with great clarity in New Zealand practically every afternoon. There are many other United States and Canadian broadcasting companies which have realised the possibilities of short waves and have developed their own shortwave equipment.

Even Japan, French Indo-China and Russia have all installed high-powered shortwave stations which are received in New Zealand with great volume. In fact, there is an ever-increasing number of stations too numerous to mention, in all parts of the world, which have installed, or are installing, similar equipment.

Modern Shortwave Receivers.

WHILE shortwave stations have been increasing in numbers and efficiency, developments in receiving apparatus have also been taking place. The advent of the screen-grid valve has rendered possible much greater amplification of the received signal. While the three electrode valve had been suitable for use with long waves it became quite uncontrollable when attempts were made to use it for amplifying shortwave radio frequencies.

Experimenters found, however, that the new valve provided not only a satisfactory solution, but the amplification rose till it was practically equal to that obtainable from powerful long-wave apparatus.

Hitherto the tuning-in of shortwave stations had been somewhat difficult

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owing to the weak nature of the signal received, whereas two stages of screen grid amplification provides a signal of such intensity as to render the tuning in of short waves a matter of extreme simplicity. Owing to the very high frequencies involved, however, great care in receiver design is essential if the full amplification from two radio frequency stages is to be obtained. Certain factors in the design of shielding for instance, which are unimportant in longwave receivers, become essential when such high shortwave amplification is involved.

The best of apparatus should be utilised throughout, as nothing tends to ruin results more than condensers of poor quality and poor insulation generally, when high frequencies are involved.

The modern receiver should be capable of the reception of both long and short waves at maximum efficiency. This is the ideal combination and one that is becoming more and more in demand as the utilisation of short waves becomes more and more general. There are receivers on the market in New Zealand at the present time which fulfil both these requirements to a degree hitherto unobtainable.

Latest circuit developments have done away with any sacrifice of efficiency on long waves in order that short waves should be received. In fact, greatly improved results on both wave bands are to be had. The time is arriving when the purchaser of a radio set will demand that his receiver should operate on all waves.

He will realise that unless this is the case he is missing much of the radio entertainment available to him. The range of his set without short waves is cramped to a radius of a thousand miles or so instead of the whole world.

Stations May be Heard in Daylight.

UNLIKE long waves, short waves are capable of travelling great distances during daylight hours. The shorter the wavelength the more does this become true. Thus wavelengths of about 80 metres will provide good reception all over New Zealand in broad daylight, when long waves are unsatisfactory. Except when high power is used, however, the limit of the daylight range for 80 metres is about 800 miles, unless unusually good conditions exist. This refers to daylight at both ends.

If one end is in darkness, the range is increased considerably.

On the other hand, wavelengths, in the neighbourhood of 40 metres have an average daylight range of from 3000 to 4000 miles, whereas wavelengths below this value have a correspondingly greater range by day. The fact is noticeable when listening in New Zealand for United States short wave stations on late afternoons. The first stations picked up are those operating on the lower wave bands, about 30 metres or below. Those operating on about 50 metres do not come through with great strength till evening approaches.

The reason for this is that during our afternoon in New Zealand the twilight band is sweeping gradually across the Pacific Ocean, so that the amount of darkness between New Zealand and the United States increases till finally there is darkness all the way between ourselves and the American station.

As a matter of interest, it has been ascertained quite recently that wavelengths below 10 metres will not travel more than a few miles in darkness, although when there is daylight at both ends, the range often is thousands of miles. The use of these very short waves, however, has several disadvantages for purposes of broadcasting, which as yet have not been surmounted, although a recent cable from London indicates that some Frenchmen have perfected a system of telephony which operates on ultra-short waves.

Seasonal Effects.

GENERALLY speaking, although the change of season from summer to winter and vice versa affects short wave reception only in as much as it constitutes a change in the daylight conditions, there are several points in connection with seasonal effects which should prove of interest to owners of short wave receivers.

For instance, the best time of day for reception from Europe changes very markedly with the season. During the winter months, from March till August or September, station G5SW in England may be heard in New Zealand strongly during daylight hours from about 6 a.m. till noon, but about midnight, reception from this station generally is not so clear. On the other hand, during our summer, reception conditions are reversed, G5SW being heard more clearly about midnight than at the above times. This effect refers not only

to G5SW, but also to other northern European stations, such as PCJ in Holland. Reception from stations situated in the south of Europe, such as 3RO, Rome, are affected less than those in the north. The reason for this seasonal effect is made apparent by reference to a globe of the world. During New Zealand's winter, the earth is tilted at an angle with respect to the sun such that the shortest path in greatest darkness between England and New Zealand occurs during our daylight on a great circle running south from England.

During our summer, however, it will be seen by referring to the globe that the shortest path in greatest darkness



ROBERT MCKNIGHT,
who will render concertina items at
1YA on April 24.
—S. P. Andrew, photo.

is during our night on a great circle running north from England.

As the average shortwave length prefers darkness, although travelling in daylight also, as explained previously, the best times as regards day and night for reception from England and Europe generally are as stated above. Reception from these places during twilight hours generally is at a peak, independent of the season, for then darkness covers almost the entire distance for a short period.

Antipodal Effects—Ideal Position of New Zealand.

OWING to the fact that our earth is approximately a sphere, and also to the fact that New Zealand is very close to being situated at an opposite or antipodal position from England and Western Europe, there is quite a marked concentration in and about New Zealand of waves transmitted from stations in these places. This means that European signals are heard here with greater strength and clarity than is the case in countries considerably closer to Europe.

Proof of this concentration effect at opposite points on the earth is had in several cases. For instance, Hawaii is one of the best places in the world for reception from South Africa, these being places situated at almost antipodal points on the earth.

From the point of view of shortwave radio, then, New Zealand is in the fortunate position of being situated as far as possible from Europe, resulting in improved reception here. There are other reasons why New Zealand is for-

tunate in this respect, one of which being its insular position. The less land that radio waves, both long and short, have to travel over the less absorption takes place during their passage. This absorption is due to irregularities in the Heaviside layer existing over large land masses and continents.

Experiences in the Antarctic.

DURING three months of last year, when the writer was connected with the shortwave radio equipment of the Byrd Antarctic Expedition, some very interesting experiences were encountered. Although radio behaves very much as usual in the Antarctic, there are a number of instances when it does not do so. While travelling to the Bay of Whales, the City of New York, the supply ship, passed south and to the eastward of the South Magnetic Pole, where strange fading effects were noticed. During this period, there was no darkness and no night, as it was summer time, although during night time in New Zealand, darkness or twilight existed to the north of our position.

Just to the north of the Magnetic Pole reception on long waves from New Zealand was extremely good on one "evening" in particular. 2YA, Wellington, was received at great strength, and was quite as loud as it would be in most parts of New Zealand. However, 24 hours later the ship had passed the latitude of the Magnetic Pole, and 2YA, as well as all the other New Zealand stations, were quite impossible to receive. All that could be heard of 2YA was a very weak carrier wave.

A similar effect was noticed on another occasion when the Japanese stations were heard at abnormal strength, and 24 hours later were not audible. Results with shortwaves were very erratic at this same period.

Shortwave telephony was accompanied by very rapid fading, as many as ten fading periods in one second being noticed, giving an amusing though peculiar shivering effect as though the signals were affected by the low temperature prevailing. During these times it was almost impossible to read shortwave morse signals owing to their broken nature.

When the City of New York approached the Bay of Whales reception returned to normal, excellent results being obtained. The all-wave receiver used during these experiments was one of a well-known local make which gave splendid results. These phenomena point to the probability of reflection and screening of short and long wave signals in the neighbourhood of the Magnetic Pole. They also indicate the probable reason why shortwave signals do not pass freely over either the North or South Magnetic Pole as is instanced by poor reception in New Zealand from South Africa and vice versa, and between England and Alaska, where similar poor results are obtained.

Probably auroral effects are largely responsible for these results. Incidentally, this Expedition provided but another example of the ever-growing uses to which shortwave radio may be put. Without it the Expedition would have been cut off from the rest of the world, as were the Shackleton and Scott Expeditions before the days of radio; whereas, with it, not only was every movement of the Expedition known immediately in New York, but the members were able to hear actually the voices of their relatives speaking distinctly to them from America, 10,000 miles away, and were able to send replies!

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WELLINGTON

"Sellens" Short-wave Set

(Continued from page 17.)

inserted between the join and the bottle as a precaution against sticking. It is well to give a cylinder not less than two hours to set, owing to the tendency to spring apart.

Any winding of wire should be put on with the bottle in place, and if the wire is cotton-covered, may be "doped" all over with thin solution, which keeps out damp and helps to keep the coil a good shape. The first and last turns of enamelled wire may be held in place with solution, or it may be applied all over.

The constructor may desire to add an end to the cylinder so that it will stand upright, secured by a screw through a hole in the centre. In this case a square piece of celluloid, preferably heavy, is cut a little larger than the diameter of the cylinder. A screw-

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1 foot of 1 1/2-inch strip of bakelite.

hole is then made in the centre. Now, when the twine has been placed upon the cylinder to hold it, place the cylinder on the square of celluloid, having first applied cement to the lower edge, afterwards putting cement all round the joint and leave to set, after which the end may be cut round with scissors close up to the cylinder.

We now have a former looking like Fig. 3 and ready for winding. When an end has to be put on the cylinder,

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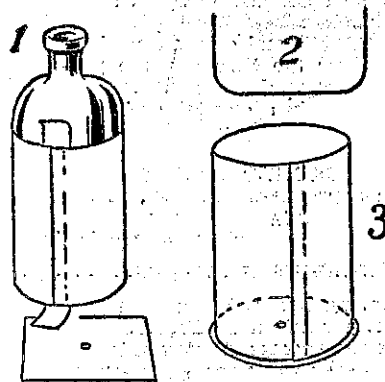
Round the World on Short-wave

THIS page is conducted in the interests of shortwave enthusiasts. A weekly log comprising notes of reception and interesting topical events is contributed by Mr. F. W. Sellens, Northland, Wellington, but all listeners are invited to send in paragraphs of general interest.

the best type of bottle to use is one shaped like Fig. 2 at the lower edge, the rounded obviating any tendency for stray cement to cause the former to adhere to the bottle. If the former is tight upon the bottle, assist removal by placing a metal spindle through the hole, pressing the other end on the table.

THOSE who wish to make a better looking coil can instead of making the former cylindrical, hold the turns in position as is shown elsewhere. This makes a much firmer job, and the coil does not go out of shape easily. The coils can, of course, be wound on ribbed or plain ebonite formers, or, for that matter, Exelon. The most efficient coil, I find, is the one held by the strips.

Here are the numbers of turns to be spaced as indicated. They are for 18-gauge wire. The tickler is 30 dsc., close wound. These numbers are taken di-

**Celluloid Coil Formers**

rectly from the coils I use when compiling the weekly log for the "Radio Record."

The Radio Coil.

TUNING condenser .0001 double spaced. Diameter, 2 inches. Turns are spaced by their own diameter, if silk or cotton-covered—mine are cotton—or slightly spaced if enamelled. The aerial coil is composed of ten turns, and I do not alter this, except the coupling. The coupling is best varied by arranging the two pins of the aerial coil as distinct from the grid coil on a separate piece of bakelite and attaching to this some kind of support that can be hooked over the side of the cabinet. It can then be varied backward and forward by sliding the support along the cabinet. The aerial's earth is connected to the pins by flexible wire. Here are the numbers for the secondary coils—3, 5, 7, 10, 15, 23. These will cover all the wavebands between 14 and 90 metres. In mounting the coil, just note that the turns go the same way as the turns of the aerial coil turns do. Just in passing, I might add that I have found it to advantage to bunch the aerial coil.

The Detector Coils.

THERE are two of these secondary and regeneration, but they are

Notes on Reception

RECEPTION has been quite good during the past week, a fair number of stations being heard at good volume. Most of my correspondents do their listening during the evening (when there is not much doing), and late night. If they changed round for awhile and listened during the early hours, say from about 5.30 a.m. till breakfast time, they would be well repaid for the early rising, as, on the whole, the best and clearest reception is to be had during this period.

Log for Week Ending April 11.

RV15, Siberia, 70.1 metres: Either conditions have improved or power has been increased, because this Russian station is stronger than ever, but still more talk than music.

ZL2XX, Wellington, 62.8 metres: Heard testing several times during the week. Maximum volume, quality excellent.

PMY, Bandoeng, Java, 58 metres: Saturday 11.30 p.m. R8, quite good quality, but spoilt by static.

HVJ, Vatican City, 50.26 metres: Thursday, Friday, and Saturday mornings from 6.30 a.m. Excellent at R9, but all talk.

PK2AF, Djocjarta, Java, 50 metres: Saturday, 11.30 p.m., R7, increasing to R8 after midnight. Static very bad.

W9XF, Chicago, 49.83 metres: Back again after several weeks' silence. Saturday, 4 p.m. to 5 p.m., R8-9, static and background troublesome.

PK3AN, Sourabaya, Java, 49.7 metres: Opened at 12.10 a.m. (Sunday) with chimes and clock striking 8, followed by

both wound on the same former and separated by about 1/4 in. Condenser .0001 threble spaced (double is just as good):

Sec.	Spacing.	Tic.
2	1/4 in.	3
3	1/4 in.	3
4	1/4 in.	3
5	1/4 in.	3
6	1/16 in.	4
8	1/16 in.	3
13	1/16 in.	5

These have been designed to suit my particular case, but it may be necessary to make some adjustments to the tickler turns so as to suit the particular valve and voltage you will use. The radio coil with ten turns can be used in conjunction with the detector coils of five or six turns. The mounting of these coils is not difficult, and in this respect the diagrams will help a great deal. Valve pins and sockets are used—they can be bought for a very small sum, and the wires tucked away underneath the pin as shown. The supports are of bakelite.

The sockets are mounted into 1 1/4 in. wide bakelite, and this kept off the sub-panel by wood separators. The detector valve socket is mounted on the extension of the bakelite support for the det. coil.

Here are appropriate voltages:—Detector about 40 volts, depending on valve in use—experiment. S.G. valve and audio valves, voltage on plate up to 150. The voltage to s.g. must be half of that to the plate of the same valve. Read the valve maker's instructions, they are the best guide. B—, A— and C+ are connected together.

the Dutch National Anthem at R9. Static very bad.

7LO, Nairobi, 49.5 metres: Audible most mornings, but very weak

W8XAL, Cincinnati, 49.5 metres: Experimental test transmission on Saturday afternoon, R9 at 5 p.m. Static bad.

VE9GW, Toronto, Canada, 49.22 metres: Nearly every morning weak music is heard. Have not heard a call, but according to schedules, this is the only station on this wavelength to be heard at this time (between 6 a.m. and 7 a.m.).

W8XAL, Boundbrook, 49.18 metres: Sunday, Monday and Saturday, R8-9 by 4 p.m., but not reaching the same volume as a few weeks back.

W2XE, New York, 49.02 metres: Sunday, R8-9 at 4 p.m. Static was bad.

F31CB, Saigon, Indo-China, 49 metres: Monday, Friday and Saturday, from 11 p.m. with native music at R8, increasing in volume later.

W8XX, Pittsburgh, 48.86 metres: R9 on Sunday at 4 p.m. Static very bad.

HRB, Tegucigalpa, Honduras, 48.62 metres: Sunday, R8 at 3.30 p.m. to R8-9 by 4.30 p.m., when they closed, readability was very poor.

Moscow, 45.4 metres (about): Tuesday, Thursday, Friday and Saturday mornings at good volume between 6 a.m. and 7 a.m.

"Radio Maroc," Rabot, Morocco, 32.26 metres: Tuned in at 7.20 a.m., when metronome was ticking, opened at 7.30 a.m. with "Madames, Messieurs, Ici Radio Maroc," etc., followed by an orchestral selection at R9. Reception was perfect till after 8 a.m., when signals started to decrease and become gushy. By 9.30 a.m. they were down to R6, and very gushy. At 8 a.m. various names were called and thanked for reports, and intimated that further reports would be welcome. All talk was in French.

VK3ME, Melbourne, 31.55 metres: Saturday, 9.30 p.m. till 11 p.m., test programmes, R9, with severe fading at times.

OXY, Denmark, 31.51 metres: Tuesday, 6.30 a.m., R5, Morse on top spoils reception.

W2XAF, Schenectady, 31.48 metres: Sunday, 2 p.m., R6, reaching R9 by 3.30 p.m. Excellent reception Monday, tuned in at 8.30 a.m., R8-9, when he was signing off. W2XAD, and said that W2XAF will now take up the transmission. Signals gradually became weaker till lost. Strong again in the afternoon, reaching R8-9.

Zeesen, Germany, 31.38 metres: Each morning R9 at 6.30 a.m., weakening later. On Tuesday a relay was on where the audience were enjoying themselves, laughing and talking being clearly audible between items.

W1XAZ, Springfield, 31.35 metres: Reaches R9 by 3.30 p.m., quality is always very good. On Saturday was heard opening at midnight (7.30 a.m. New York time), at R7-8, with calls of WBZ, WBZA, and W1XAZ, and the wavelength of each, the first two being the same.

PCJ, Eindhoven, Holland, 31.28 metres: Thursday, R9 at 6.30 a.m., with a strong ripple. Saturday morning not quite so loud. At 2 p.m. the same day they were R7, increasing to R9 by 4.30 p.m. till 5.55 p.m., when they closed with the Dutch national anthem. From 4.30 p.m. was special for Australia, Tasmania, and New Zealand. As usual, reports were asked for.

G5SW, Chelmsford, 25.53 metres: As last week, volume was good from 6.30 a.m. but signals very gushy.

12RO, Rome, 25.4 metres: Excellent each morning. On Thursday from 6.30 a.m. a talk in English was heard about an international conference in reference to wheat supplies, etc.

W8XX, Pittsburgh, 25.25 metres: Comes in about R5 by 10 a.m., increasing to R7-8 by 2 p.m., closes early, about 2.30 p.m.

17.4 metres (about): Wednesday, 9.30 p.m., music and foreign talk at R4; think it was a Jap.

Bangkok, Siam, 15.5 metres (about): Tuesday, 9 p.m., a lot of counting and calling "Alloa," till 9.30 p.m., when "Hullo, Java, here is Bangkok," was heard. Volume was R6 at first, increasing to R9 by 9.30 p.m.



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By "John O'Dreams"

Prize Poem Competition

THE prize of half a guinea in the current competition is awarded to "Thur" for her poem entitled "Ave Atque Vale," which expresses with dignity and beauty the long, long thoughts of many in these days of April, which for New Zealand is a month of many memories. Next in merit is placed "The Parson Bird," by F.H.S., which gives musical interpretation of loveliness of the songs and sounds of the native bush.

K.M.N. longs for opiate of tranquility afforded to disillusioned and heart-broken by "friendly hands of night," and yearns for peace at the last in enveloping consolation of the great Earth Mother.

"April": The correction indicated was made, but your lines are not sufficiently attractive to win the competition, there being a slight effect of incoherence.

"Blessings" and "Wool's Up," sent in by an optimistic versifier, are imbued with a strong strain of the preaching spirit.

"Solitude": Yearnings from a hilltop for the one and only companion. Another example of the stern truth, "Never the time and the place and the loved one all together" in an imperfect world.

E.H. chooses for motif sharp contrasts of life, in a quartette of verses, the last being the most effective, but the poem does not rise above mediocrity.

"Oh Mack's" romantic idyll is expressed with this contributor's accustomed facility and grace.

"Wild Rose" paints elusive picture from a palette studied with fresh hues of a dawning day.

Dale St. Maur: Poignant memories induced by resuscitation of melodies heard when the world was young.

"Terdinand" scoffs, with some asperity, at the ways of love. Methinks he doth protest too much his superiority.

"Sunlight": The light that failed indeed!

Ave Atque Vale

Weep not for them. Commemorate their passing
As for the heroes brave of ancient days;
Scatter bright flowers, pride our grief surpassing,
Hang banners gay and chant in martial lays
For Anzacs of the past who still are living.
As when they landed on that far-off shore,
Triumphantly our thankful hearts are giving
Grateful Te Deums for them evermore.
Ring out the strains from the carillon tower,
Proudly we laud them, these our fallen men,
Scattering the poppies in a crimson shower,
As emblems of their deeds that live again.

—Thur.

EITHER you are an enthusiast about the work of Knut Hamsun, or the magnificent narrative of this great novelist leaves you cold. To the former discriminating coterie, which acclaims him at his true value, I commend "Vagabonds," a new novel, having for motif the primitive conditions of life in a Norwegian fishing village.

MR. TENNYSON COLE, the eminent portrait painter, has written an autobiography, which he has christened quite admirably "Vanity Varnished." In this he tells some good stories about all sorts and conditions of people whom he has come across in the course of his long life.

SINCE reading "Gallions Reach," that memorable book of adventure, one reader at least has been inspired to make his own everything written by its author, Mr. H. M. Tomlinson. So that the news of his latest book is hailed with pleasurable anticipation. It has the intriguing title of "The Sea and the Jungle," and is illustrated by woodcuts which are the work of Miss Clare Leighton. Assuredly a volume to grace any library.

LADY ELEANOR SMITH, daughter of the late Lord Birkenhead, is a sparkling chip of the old block, she being author of a recent brilliant novel entitled "Flamenco." In this is set out the story of Richard Lovell, exiled in Devon because he was discovered using loaded dice in his London club. Upon the curious menage of an eccentric wife and progeny of three descends a score of gypsies, from whom Lovell, actuated by sudden impulse, buys a girl of their tribe and brings her up with his own family. The history of her reactions to that peculiar household, and her conflicting amours, make interesting reading; the character drawing in this grim story of elemental passions being superb, compelling confidence in the future success of this brilliant young writer.

THE work of Mr. E. V. Lucas needs no eulogy. His public is such an enviably large one that a new book by the brilliant essayist is a notable event. His latest contribution to current literature is a saga of wander-years in France, with which pleasant and friendly country he is as familiar with as, let us say, dwellers in the Capital City are with the Hutt Valley. Upon his conte of his roving he brings to bear his accustomed charm of description and witty and sometimes cynical perception of the freaks and follies of mankind. Things small and great are etched with inimitable vim and whimsicality, and it is predicted that "French Leave" will run to many editions.

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For the last six months our readers have been anxiously awaiting the publication of the 1931 edition, and we now have pleasure in announcing its appearance for sale. Copies may be obtained from any bookseller or radio-dealer right throughout New Zealand.

As in former years, every phase of radio has been exhaustively and simply discussed and tables and charts brought up-to-date, whilst the stations calls section now covers twenty-three pages, so those who purchase the latest work are sure to find that they once more have obtained a wonderful book of reference and instruction.

CHAPTERS OF INTEREST

Chapter 1.—Radio in New Zealand.
Chapter 2.—A brief account of the technique of broadcasting. Linking up with recording for gramophones and talkies. Selectivity and the Robinson Radiostat. Sets: How they work. All types, from crystals to super-heterodyne.

Chapter 3.—Gramophones section. Notes on popular gramophone topics, pick-ups, etc.

Chapter 4.—Construction, including tips and jottings, and how to make all types of sets with complete circuits.

Chapter 5.—Transformer construction.

Chapter 6.—Short-wave reception and transmission. Complete circuits for different types of short-wave sets and adaptors.

Chapter 7.—Trouble tracking method fully described.

Chapter 8.—Call Book. Every station that can be heard in New Zealand is listed, giving full details as to call sign-frequency, etc.

Chapter 9.—Reference section.

Chapter 10.—Glossary of wireless terms.

For Amateur Constructors

Many new ideas are shown in this year's circuits, all of which have been tried and proven in the laboratory before inclusion in the Guide.

Constructors may build with our guidance any set up to five valves, no matter whether it be A.C. or battery, combination or shortwave, should they desire to do so.

Perhaps the most popular shortwave circuit will prove to be the screen-grid A.C. receiver using four valves; the test model in our laboratory has brought in England, Holland and America with full loud-speaker strength, and the other circuits described are equally as good as this one in fulfilling the purpose for which they were designed.

The "Call Book" Section

The most comprehensive CALL BOOK ever published in the Southern Hemisphere will be included in the 1931 Guide. All the New Zealand and Australian stations listed will have complete particulars of call-sign, address, power, wave-length frequency, and hours of operation.

For the purposes of overseas compilation we have had numerous official correspondents in many parts of the world forwarding full details of the stations in their particular countries.

Sufficient is it to say that over 400 American stations are listed, giving all details, with the exception of hours of operation. Stations in such countries as Canada, Mexico, Cuba, Japan, and China have also been similarly dealt with.

The most important shortwave transmitters in all countries are given, with their hours of operation in New Zealand time.

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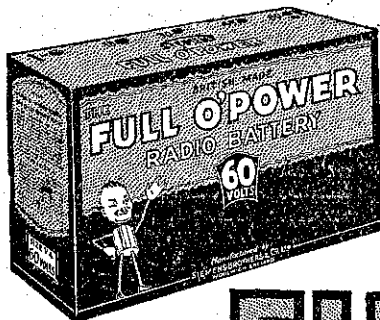
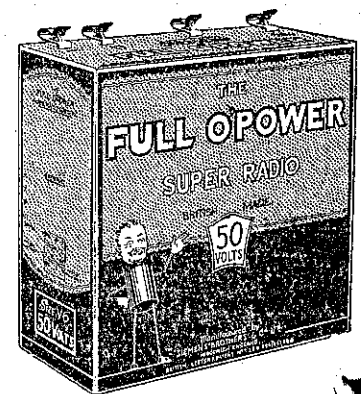
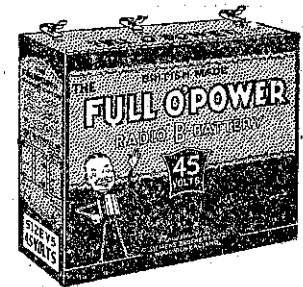
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