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## Service Committee to Help Radio

### Comprehensive Outline of Public Relations

A comprehensive statement is made by Mr. A. R. Harris, general manager of the Radio Broadcasting Company, regarding the progress made in radio service and the prospects for the future. In particular, Mr. Harris outlines the desirability of co-operation for the mutual benefit of all concerned, between the company and such public bodies or societies whose objectives were such as to make closer co-operation between the broadcasting company and themselves desirable. This involves the establishment of service committees on the part of different organisations. This scheme has been in operation in an experimental way in Christchurch in relation to church services, and has proved most successful, and it is considered the application of the scheme to all interests concerned will prove equally successful and satisfactory.

**T**HE full text of the statement made by Mr. Harris is as follows: "In launching a new business, such as radio broadcasting, the Radio Broadcasting Company of New Zealand, Limited, has endeavoured to visualise from the outset its ultimate objective of rendering the greatest possible measure of service to the community. It has recognised that the conditions met with in the initial stages might be entirely different from those obtaining later, and, rather than introduce expedients which might restrict development later, has made every effort to establish the business on a sound basis. Every step has been taken only after careful consideration, not only in respect of the immediate requirements, but also of the ultimate effect.

#### ORDERLY PROGRESS.

"While the company appreciates that programmes are of paramount importance, and that the culminating point of the work of the whole of its organisation is the efficient broadcasting of such programmes, it realises that to establish a sound foundation on which to build the superstructure of suitable and acceptable programmes an efficient transmitting plant and station, combined with a competent staff organisation, are the first essentials.

"The three essentials, in order of priority, are thus:—  
(1) Efficient plant and station equipment.  
(2) Efficient staff organisation.  
(3) Attractive programmes.

#### PLANT

"In providing the first essential, it has been necessary to carry out a vast amount of detail work in obtaining the latest information, purchasing the best equipment, locating sites, planning lay-out, erecting apparatus, furnishing studios, and financing capital expenditure.

"The requirements of studios for broadcasting purposes had also to be studied exhaustively, and there arose difficulties in securing suitable premises, so much so that in the case of three of its stations the company has found it necessary to erect special buildings, and in the case of the fourth station extensive structural alterations had to be effected. As an outcome of this work the company's stations compare favourably in efficiency with any other stations in the world, and also its station at Wellington is equipped with transmitting apparatus second in power in the British Empire only to that at Daventry.

"The policy of avoiding temporary expedients and their resultant legacies, now makes it possible for the company to broadcast from properly equipped and correctly proportioned studios a transmission which carries to the listener to New Zealand stations a faithful reproduction of the full artistic effect of the items rendered.

#### STAFF ORGANISATION.

"In organising its staff the company has had no precedent to draw upon. The present personnel has, however, been carefully chosen and its enthusiasm and industry are proving very effective. However, more remains to be done in perfecting the organisation, and as the service expands and circumstances warrant action will be taken commensurate with the income.

#### PROGRAMMES.

"In organising the staff of the company the attainment of the objective is much more involved and difficult than in the case of arranging a programme to be staged in a concert hall. In such cases the attendance at concerts is an indication that the audience is more or less in sympathy with the particular type of programme to be presented. On the other hand, a broadcast programme reaches a varying audience, including many types, and

therefore a programme which is popular for a concert hall may not be popular when broadcast.

"The company endeavours to secure the best talent available for its programmes. Every applicant is required to give an audition and the results are carefully classified on confidential records provided for the purpose. To these records are added from time to time artist's accomplishments and subsequent dates of performances, items presented and comments.

"From these records the programme organiser can readily choose the artists he considers will be most suitable for the particular type of programme to be presented for each session.

"Skeleton programmes are prepared for approval six weeks before the date of performance and detailed programmes four weeks before the date of performance. Session agreements are executed by the performer on the one part and the programme organiser and station director on the other part. These contain full details of items, including composers and publishers.

"Arrangements are also made for each performer to attend at the studio and rehearse with the official accompanist, and a few days before the date of performance a reminder card is mailed to the performer to ensure that the engagement will not be overlooked.

"Thus it will be seen that a great deal of work is involved, and nothing left to chance in preparing a programme for broadcasting purposes.

#### CO-OPERATION BETWEEN THE COMPANY AND LISTENERS.

"Although it has not appeared opportune hitherto to introduce a medium of direct contact with listeners, the company considers that the time has now arrived when it might establish some form of public relationship with its customers.

"Proposals have been formulated from time to time by various leagues and societies, but these have been more or less premature and for the most part abstract, incomplete and incapable of practical application.

"In dealing with the question of public relations there are three distinct factors to be taken into consideration, namely:—

- (a) Effectiveness of transmissions at the point of reception.
- (b) Public utility of programmes.
- (c) Improved facilities for reception.

"In so far as the listener is concerned, the company proposes to deal with each of the above respectively as follows:—

- (a) By the appointment of 'honorary official listeners' and official 'listening posts.'
- (b) By organising 'public relations' committees at all broadcasting stations.
- (c) By sponsoring 'better radio' leagues.

"It will be recognised that the success of these public relation proposals hinges on co-operation between the parties. It must be remembered also that co-operation means united effort for a common purpose on the part of all concerned, and that unless it is wholehearted it becomes a hindrance rather than a help.

"The organising of the 'public relations' committees and 'official listening posts' will be undertaken by the company.

"The formation and operation of 'better radio' leagues, however, will depend upon the initiative and enthusiasm of listeners. The company cannot organise the leagues, but is prepared to assist.

"Leagues should be able to do a great deal in arousing interest and popularising radio, which in turn will increase the value of radio to the listener himself.

#### EFFECTIVENESS OF TRANSMISSION AT POINT OF RECEPTION.

"The question of efficient transmission of programmes from properly equipped and controlled stations is an internal one for the company. The effectiveness of the transmission at the point of reception, however, is a matter that can be better gauged with the help of listeners, and in order that reports may be received that will enable a systematic study of the question to be conducted, the company proposes to arrange for closer collaboration with listeners by the appointment of honorary official listeners of the Radio Broadcasting Company of

New Zealand, Limited. The receiving stations of these honorary officers will be recognised as 'official listening posts,' and will be situated in the following localities:—

#### North Island.

Auckland City.  
North Auckland.  
Bay of Plenty.  
Hawke's Bay.  
Taumarunui.  
Palmerston North.

South Auckland.  
Poverty Bay.  
New Plymouth.  
Wanganui.  
Wairarapa.  
Wellington City.

#### South Island.

Blenheim.  
Westport.  
North Canterbury.  
Central Otago.  
Christchurch City.

Nelson.  
Hokitika.  
South Canterbury.  
Southland.  
Dunedin City.

(To be added to as necessity arises.)

"Appointments will be for a period of one year expiring on March 31 of each year, and will be made by the Broadcasting Company by issuing to each officer a certificate of appointment and an official badge. The head office of the company will issue periodically to 'official listeners' bulletins of general information with regard to transmissions.

"The duties of honorary official listeners will be:—

- (a) To supply to the company from time to time reliable information regarding reception of its transmissions in his particular locality.
- (b) To report on the effect of special test transmissions.
- (c) To investigate local reports concerning the reception of transmissions.
- (d) To investigate local reports of interference from other transmitting stations and ships.

#### PUBLIC UTILITY OF PROGRAMMES.

"To-day certain activities of the Radio Broadcasting Company of New Zealand, Limited, touch upon work already being undertaken in the more usual way by well-defined public bodies or societies. There are the churches, musical and dramatic societies, child welfare leagues, educational bodies, sports clubs and radio and listeners' societies, all organised, and inevitably interested in what radio is doing toward the furtherance of their respective objects. It is the aim of the company to obtain, if possible, some sort of co-operation between itself and these representative bodies.

"In furtherance of this aim, the company has formulated a scheme of public relation committees. It is intended that the personnel of these committees shall consist of representatives of the bodies concerned and representatives of the company. For instance, the sports committee shall consist of representatives from football clubs, cricket clubs, tennis clubs, athletic clubs and other sporting clubs and the company's representatives.

"The company devotes a portion of its broadcasting time to the matters in which the above-mentioned bodies are interested.

"The duty will devolve on the various committees of recommending to the company items of interest to be broadcast during the times at their disposal and of matters incidental thereto. In addition, committees will be required to consider applications and suggestions for broadcast of matters pertaining to their particular subject, and, in the case of competing claims, come to resolution thereon for the guidance of the company.

"For the sake of uniformity, and in order to facilitate the work of the committees, the company has prepared a scheme by which it hopes to secure the desired co-operation between itself and the bodies mentioned. It seeks co-operation for the mutual benefit of all parties, but it must be borne in mind that in all matters the interests of the listener-in are necessarily paramount.

#### IMPROVED FACILITIES FOR RECEPTION.

"The Radio Broadcasting Company is endeavouring to establish an efficient service of maximum public utility, but efficient transmission of attractive programmes is of little value unless the listener has suitable reception apparatus properly installed, operated and maintained under efficient conditions.

(Continued on page 4.)

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

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

IN my rounds among the radio traders, I have received unvarying endorsement of my oft-repeated contention that the multi-valve receiving set to sell in New Zealand must, under average conditions, be capable of bringing in the chief Australian broadcast stations with ample loudspeaker volume. A receiving set of four or more valves which cannot accomplish this is bound to remain in stock. This is a stiff proposition as compared with America, England and the Continent. In other parts of the world where broadcast listening is popular the radio public are content to reach out, on the average, not more than five or six hundred miles. New Zealand is an insular country with a somewhat restricted population and resources for broadcast entertainment, while at a distance of about 1300 miles lies Australia with its population of six and a quarter millions and broadcast services of an exceptional character, due, of course, to the liberal financial support of the listening public. Now, 1300 miles is a goodly distance to span when entertainment from stations of only 2500 watts aerial power is sought for. This entertainment is demanded nightly, although it is unreasonable, for, apart from static interference, the natural and unpreventable "fading" under adverse conditions on certain occasions renders absolutely consistent loudspeaker reception impossible. However, an efficient multi-valve set can be relied upon to give many programmes from Australia each month. It is doubtful whether any multi-valve set buyer in New Zealand has yet made his purchase without stipulating that the set must "bring in the Australian stations." What would the American and English manufacturers say if they were told that every multi-valve set they turned out was expected to give fairly consistent loudspeaker reception over a distance of about 1300 miles? Seeing that the majority of buyers in America do not expect such a performance, it speaks well for the vast majority of imported sets that they actually do accomplish this feat fairly regularly. Anyhow, as reception of Australian programmes is a powerful aid to the popularity of broadcast listening in New Zealand it should not be discouraged.

## A £120 ZENITH MODEL.

THE extraordinary development of the broadcast receiving set during the past few months is exemplified wherever one goes to see the latest in imported productions. The crude-looking apparatus with several tuning coils is just a memory nowadays, and in its place is the elegant, handsomely finished model, in which simplicity in tuning is one of its outstanding features. The prices sometimes, too, have soared, in

keeping with the many expensive refinements, and the superbness of the console models. This week I had the pleasure of examining Zenith Company's "Ten, De Luxe" model, stocked by Mack's Radio Co., Ltd., Kent Terrace, Wellington. This magnificent console set has five stages of radio-frequency amplification, a detector, and four stages of audio-frequency amplification. The circuit is one of the Zenith Company's own design, and, seeing that it is a remarkable long-distance getter, operated by only one tuning dial, the makers have achieved an undoubted triumph. With the one tuning control, 2VA, Wellington, is completely cut out, and 2FC, Sydney, brought in with full loudspeaker strength, in a city location. So its selectivity is definitely established. The set is thoroughly shielded within, and there is a neatness about the workmanship which is the hall-mark of superiority. The cabinet is made locally, and is a replica of the most costly imported article. The four audio stages are a combination of transformer and impedance amplification. The tuning dial is well illuminated with a little electric bulb. The set has a wavelength tuning range from 80 to 540 metres, and in combination with a short-wave adapter, can operate down to 10 metres. The set is operated with an external "A" battery, fitted with a trickle-charger, a "B" eliminator, and dry-cell "C" battery. This De Luxe model sells at £120, complete with all batteries and accessories ready for operation. Mack's Radio Co. also stock other models of the Zenith, including a particularly successful DX performer—the Model II. This is a 6-valve set, in which every valve works, the Zenith Company having their own valveless method of aerial-coupling, so that no loading valve is required for that purpose. There is a single-control electric lighted dial, with four condensers permanently balanced on one shaft. The set is battery operated, and it is wired for a power valve in the last audio stage. But there is an ample range of Zenith lines, ranging in prices from £36 to £750.

## THE NEW "SCREENED-GRID" VALVE.

THE new radio amplifying valve, Radiotron UX-222, belongs to the "Tetrode" or four electrode class. The Radiotron UX-222 is a four element screen-grid valve particularly designed for radio frequency amplification. The experimentally inclined amateur will find that with proper shielding of the radio frequency circuit, neutralising and stabilising devices are unnecessary, the introduction of the shielding "Screen-grid" between the usual control or "Control grid" and plate, not only decreases plate to grid feed-back capacity, but also increases the mutual conductance of the valve.

Radiotron UX-222 may also be used in a totally different role, as an audio frequency amplifier, in resistance coupled circuits. Higher overall amplification at audio frequencies is possible with this valve without greater plate resistance than that of three element high mu valves.

The filament of the Radiotron UX-222 operates at 3.3 volts, and the filament consumption is .132 of an amp, but with a series resistor of 15 ohms., it can be connected in parallel with 5 volt filaments.

## CHARACTERISTICS.

(When used as a radio frequency amplifier with special shielding.)  
Type of base, Standard American UX.  
Maximum overall height ..... 5 1/2 in.  
Maximum overall diameter ..... 1 13/16 in.  
Fil. volts ..... 3.3  
Fil. current ..... .132 amps.  
Plate volts ..... 135  
Grid volts, inner-grid ..... 1.5  
Grid volts, outer-grid ..... .45  
Plate current ..... 1.5 m/a  
A.C. plate resistance .. 850,000 ohms  
Mutual conductance ..... 350 m/μ  
Amplification factor ..... 300  
(When used as an audio frequency Amplifier in resistance coupled circuits.)  
Fil. volts ..... 3.3  
Fil. current ..... .132 amps.  
Plate volts ..... 130  
(Applied through plate coupling resistance of 250,000 ohms. grid volts).  
Grid volts—  
Outer-grid ..... 1 1/2  
Inner-grid ..... .22 1/2  
Plate current ..... 3 m/a  
A.C. plate resistance .. 150,000 ohms.  
Mutual conductance ..... 400 m/μ  
Amplification factor ..... 60

## PROMPT AND GOOD REPAIRS.

A PROMINENT American radio service man says:—"The appreciation of an instrument lies in the ability to use and enjoy it. It is evident that no radio set could ever be built which would not, at some time or another, require some repairs. When these repairs will be needed is something which cannot be foretold. But the value of the radio set, its prestige and that of the industry, may be greatly strengthened if the service given and the repairs made are of such quality of workmanship and materials that the owner will have confidence in his set."

"With the keen interest shown in radio, many inventions covering the entire field have been brought out, and it is now possible to determine the trouble in any set with apparent ease. There have been several types of troubleshooters placed on the market, and it is an easy matter to build one which will answer the purpose. The real value lies in using them, and in following up the trouble when it has been located, and staying with it until it has been thoroughly cleared up."

"One of the features offered through our service department is same-day service. If an owner brings in his set during the day, we are in a position to offer him immediate attention, and get it in shape—unless there is some major trouble—so that he can use it that night. We have a complete stock of repair parts on hand, and, with a proper knowledge of construction, it is a simple matter to rush the order through."

"Co-operating with this repair service should be an iron-clad ruling that all spare parts and materials used in this work should be of the best. I doubt if there is anything which will do more harm or will do more to break down confidence in radio, than for some mechanic with limited ability to inject some cheap or used parts into a set which has cost quite a sum of money."

## TELEVISION RECEIVING SETS.

A REPORT of a recent successful test of television was published in the "Radio Record" of March 9.

A New York writer says:—"At last television has become something more than mere theory. Demonstrations in Schenectady recently proved most successful, pictures of announcers were sent through the air, the eventful images being seen in a cabinet. The device is not complicated, and resembles an ordinary broadcast receiver. The sets (as reported recently in the 'Radio Record') were designed and demonstrated by E. F. W. Alexanderson."

"Television in the home is an accomplished fact. It has been done, as a large group of newspaper men can verify. True, it is only a laboratory development as yet, but 1928 doubtless will see the installation of television transmitters in more than one broadcasting station, and the marketing of television receivers at a price within the reach of the average home."

"It is now a problem only of refinement of apparatus, and bringing the cost element down—not so difficult as it may sound—to a commercial basis."

"Dr. Ernest F. W. Alexanderson, chief consulting engineer of the Radio Corporation, and also a consulting engineer of the General Electric Company, designed these sets. Dr. Alexanderson, a blocky, square-faced, unassuming scientist, who discusses radio marvels with a noticeable Swedish accent, insists that his work involves no new principles. It is a simplified application, he says, of principles previously known and founded upon the contributions of many pioneers."

"If you look into the cabinet at the heart of this wonder the immediate impression is surprise at the absence of a complicated collection of gadgets

and electrical whatnots. You see scarcely any apparatus more than is found in a good commercial broadcast receiver. There is nothing inherently expensive about it. A reasonable guess is that it could be sold in volume for around 200 dollars.

## Real Motion Pictures.

"The human eye holds an impression one-sixteenth of a second. If varying impressions are conveyed to the eye at the rate of sixteen individual impressions or more per second, the result is a moving picture. Each impression is made up of light and dark shadings. When a face is broadcast by television its lights and shadows have to be translated at the transmitting apparatus in terms of electrical impulses. This has to be done on an instalment plan, shipping one small square of the face at a time. A moving beam of light is played upon the face through a spinning disc, which has holes punched into it. What is glimpsed through each hole is a separate unit of the image."

"The variations of the light beam, as caused by the varied shadings of the face, are translated into electric current through the now familiar photo-electric cell. Thus, the image takes the air. Its wave impulses are picked up by the receiver as in the case of sound and are amplified, as is sound by a loudspeaker. The impulses next travel to—and vary the intensity of—a neon lamp. No screen is used. By increasing the number of holes in the disc, a more clearly defined image will be obtained. In the sets of the future, and images far larger than three inches square will be possible."

"There are two alternatives to the spinning disc—a mirror drum or a disc with lenses. The spinning disc is used by Alexanderson because holes cost less than mirrors or lenses."

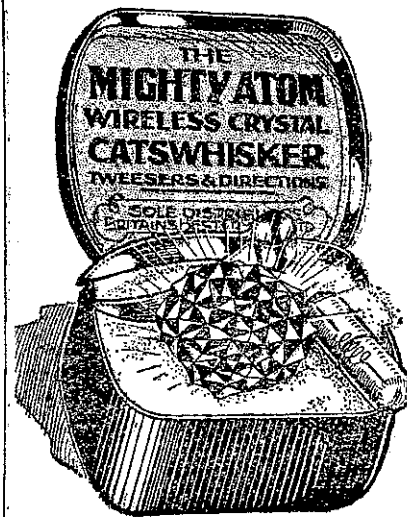
## THE BROWNING-DRAKE CIRCUIT.

THE old three-coil regenerative set received its hardest knock probably from the Browning-Drake circuit. This is as it should be, for the old so-called "Armstrong" (rightly Dr. Forest "feed-back") circuit, if carelessly or stupidly handled, is one of the most vociferous "howlers" yet devised by radio inventors. But there is always this much to be said in favour of the three-coil regenerative circuit, owing to its reaction it is a great distance-getter and has many wonderful performances to its credit. It was a set of this type which first brought KGO, Oakland, California, in to Wellington on the loudspeaker, and a similar set was second to accomplish this feat, both outfits having only three valves. This performance took place some four years ago, and power valves were not the vogue in those days. But the old three-coil set had to go. It was a disturber of the ether and, although a fair proportion, unfortunately, still linger with us, some hundreds of listeners have scrapped them or altered their three-coil circuits into more modern circuits. The first essential was a set that would not "howl" and which had reaction, if the three-coil circuit was to be supplanted. The next requisite was a set which was easy to build and easy to operate. Now, if a Browning-Drake circuit is correctly neutralised, it is as silent as the tomb, despite how carelessly you operate it. The reaction of the Browning-Drake is one of its distinctive features. It is not so difficult to build as a three-coil set, and it is incomparably easier to operate. Another factor which places the Browning-Drake far ahead of three-coil circuit is that its one stage of radio-frequency amplification is considerably more efficient than any known means of adding a stage of radio-frequency to the three-coil circuit. The ordinary Browning-Drake set excels in long-distance performances with only four valves, so that it is not substantially more expensive to construct than the

three-coil circuit. Then, the Australian stations, excepting only 6WF, Perth, all had their wavelengths reduced to below 550 metres. This robbed the three-coil set, with its handy plug-in coils to adapt it to any wavelength, of one of its greatest recommendations. The Browning-Drake circuit can take in all the wavelengths commonly used by the broadcast stations now available to New Zealand listeners. So now, like Othello, its occupation gone, there is no particular reason why the three-coil regenerative circuit should continue to exist. One of Wellington's leading authorities on the Browning-Drake circuit, Mr. C. C. K. Fear, of Fear and Co., Willis Street, Wellington, informed me the other day that he is working at full pressure to cope with the demand for the conversion of obsolete sets into Browning-Drake circuits. Mr. Fear has made a special study of this circuit and is a regular encyclopedia on it. He builds the Browning-Drake regenerators and aerial tuning coils for standard new sets, or to match customers' own condensers and valves. He also finds a constant demand for the correct neutralising of clients' home-built sets, and he does this for 2, 4 and 5-valve valves. There is not a little skill required to neutralise the Browning-Drake circuit, and many home-builders find this a stumbling block. The correct neutralisation of the Browning-Drake circuit is essential to obtain the best results, not to mention the desirability of preventing it from being an even more ferocious "howler" than the obsolete three-coil regenerative set.

## TEST YOUR VALVES.

IT is a good plan to have the valves in a receiver tested after every three or four hundred hours of service. If a receiver is in use an average of three hours per night for instance, it will be worth while to have a service man test the valves about once every four months, and to replace any that are found to be wearing out. This is particularly important where the receiver makes use of rheostats for the adjustment of the valve filament supply, because if a single valve starts to wear out there will be a tendency to make up the decreasing volume by turning the other valves up higher, and the usual result is that several valves are prematurely worn out. Replacement of the one poor valve would save the others.



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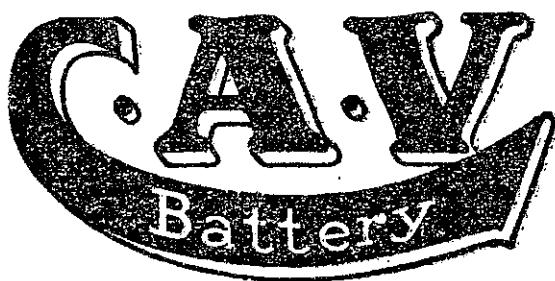
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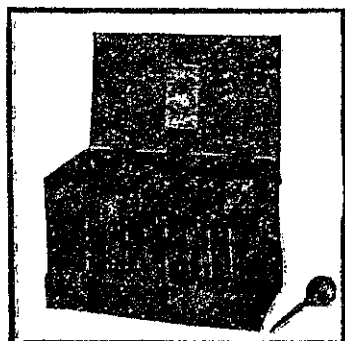
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# Radio Matters Ventilated in Auckland

## Company, Government and "Radio Record" all Condemned

### Dealers Repudiate Destructive Criticism and Support Quality of Programmes.

**F**OLLOWING a deal of propaganda in the Auckland Press, Mr. William Goodfellow, a director of the Radio Broadcasting Company, gave an interview on the position a few days prior to the public meeting.

He stated that in his opinion a great deal of unnecessary and entirely misleading publicity had recently been given regarding certain decisions of the general manager of the Radio Company. He had personally looked into these matters very carefully, and had no hesitation in stating that the management had taken the only possible action under the circumstances. It was very regrettable that a small section of Auckland listeners seemed determined to use every possible pretext in an endeavour to discredit the ability and sound judgment of the general manager.

#### NOT MONEY TO BURN.

Continuing, Mr. Goodfellow stated that he had, within the last few weeks, visited all the leading cities of the Dominion, and on every hand heard nothing but praise for the broadcasting services. It was generally recognised that a very marked advance had been made during the past year. Referring to the question of finance, he stated that the impression had been created that the company had money to burn. Such was not the case. The total income for the past year was under \$40,000 for the maintenance and operation of four stations, and during several months the expenditure had actually considerably exceeded the revenue. This could be readily realised when he stated that one station—3LO Melbourne—had now a revenue of nearly \$100,000, and this station was the standard the New Zealand Company apparently was expected to equal. The expense of running four stations was very great. For instance, the payment of copyright alone ran into thousands a year.

#### NO UNDE CONTROL.

Dealing with the question of management, he said that it had been stated that there was undue control of the Auckland station by the head office. This was not correct. Each station was treated as a unit. A station director was expected to use initiative and to keep in intimate touch with local conditions. He was solely responsible for his programme and was expected to recommend for engagement the best available talent. The station director was further expected to use tact and influence in persuading artists to give the class of performance which the public demanded. Interference from head office merely implied that the work was not satisfactorily performed by the station, and that, therefore, assistance had to be given. A local station director had, in fact, power to deal with all routine matters, and it was largely questions of policy which were dealt with by the head office at Christchurch, which was just as satisfactory as Wellington for administrative purposes.

#### "THOUGHTLESS CRITICISM."

The broadcasting company claimed to have engaged the leading artists and performers available in this country, and these artists were working with enthusiasm at the big task of providing daily concerts, while at the same time keeping in view the necessity for an excellent standard of performance. The thoughtless criticism which was being indulged in by a few individuals can only have the result of weakening that enthusiasm and seriously handicapping the efforts of the performers.

In conclusion, Mr. Goodfellow stated that neither himself nor Mr. Harris would attend public meetings, but at all times the management would be pleased to receive constructive and helpful suggestions for the benefit of the large and increasing number of radio listeners throughout the Dominion.

#### THE PUBLIC MEETING

UNITY Hall, Owen Street, was filled with about 300 people on the evening of Monday, March 19, on the occasion of the Listeners' League meeting. Major H. S. Robinson presided.

Mr. A. C. Jacob, president of the league, said he would like to let them know what the league had done. They had had a memorable meeting at Scots Hall about the beginning of June, but they were up against rather a brick wall, especially in the general manager, who was endeavouring to carry out in New Zealand what a big body of men and an Advisory Board in England found great difficulty in doing. He could only say that, as far as he could see, "Mr. Harris was either one of the greatest egoists of this world, or he did not realise the responsibilities of his position." Soon after the Scots Hall meeting the "Radio Record" came out with a leader calling for the closest co-operation between the listeners and the company. As they were asked to co-operate, they naturally tried to co-operate; they met Mr. Harris in July, together with the dealers, at IYA, and asked him to do certain things. Mr. Harris said he would like to do those things, but they had no money. They offered to float the balance of the capital, and asked that listeners should have representation with regard to programmes, but Mr. Harris didn't want that. "I don't know what he wanted. As far as I can see he didn't want co-operation, he wanted isolation." However, he said if we would submit a scheme he could consider it. We sub-

mitted a scheme, which was, briefly, that, as far as IYA programmes were concerned, they should be governed by a committee of three—we suggested the station director, a member of the Government, and a representative of the listeners—and that this committee should be advised how much money was allotted to IYA and spend it. Mr. Harris would not agree to this. If he had, they were prepared to circularise listeners with the request to co-operate with the company and endeavour to undo the "shake-up" we gave them in May. We were prepared to appeal to

AUCKLAND has enjoyed quite a field week on radio. Arising out of the change in the directorship of IYA, the executive of the Auckland Listeners League called a public meeting, the ostensible object of which varied according to the quarter in which the announcement was made. The executive's letter to the general manager gave the object as "dissatisfaction both with the programmes from IYA and the whole system of broadcasting." The secretary's telegram to us gave the object as "to discuss the years operations and future of broadcasting." The president, in a letter elsewhere, declares it was a protest against lack of co-operation.

WE freely and courteously published, as requested, the secretary's notice of the meeting and, although not invited, decided to attend because of our interest in radio. To our surprise we found, on arrival, that amongst other subjects for condemnation was the "Radio Record." We will not express any opinion on the secretary's action in using our columns as he did and not advising us of the intention to attack the "Radio Record." It does not square with the pious declaration of League speakers that "they do not attack without giving the opportunity for defence."

IT is probably correct to say that the mainspring of action in relation to the meeting was the staff change mentioned. It was a former staff change, that in relation to Mr. Prentice, which we believe was largely responsible for the formation of the League. Then, following a provisional meeting which elected the promoters to the executive, a public meeting was called and, by using the names of Mr. Harris, Mr. Goodfellow and Mr. Prentice as having been "invited" to speak, there was attracted a large gathering.

On this occasion the same tactics were employed. An "invitation" to attend was graciously given the general manager, the secretary to the Post and Telegraph Department and the late station director. In our contact with public life we have invariably found it regarded as courteous to secure an acceptance before using a public man's name as a "draw," but these small details were ignored. It may at least occur to the public, however, that, as on the two occasions when the League has staged a public meeting, none of the "lions" whose names were used as "bait" has attended, and the League executive has then used the opportunity to push through ready-made resolutions, some guarantee should be required on any future occasion as to the bona fides of the announcements made. On their face, the League's record is not too good.

THE great use made by the league in its publicity of the "invitation" extended to Messrs. Harris, McNamara and Stringer, carried with it, we think, an obligation in courtesy to explain to the meeting its failure to produce the "invited" speakers. No such attempt was made. Although they had dragged in the name of a high Government official, no explanation was made to the disappointed

audience of his absence. Although the League had a letter in reply from Mr. Harris it was not read, nor was it announced that he requested the League to give details of the alleged "dissatisfaction with programmes and the system of administration" and had offered to meet the executive. Such action would have been fair but it was not done.

WHILE obviously the prime inspiration of the meeting was the change in staff, it is very significant that that matter was not even brought before the meeting. Apparently those responsible had become wiser in the interval following their call for publicity. In the alternative, attention was concentrated on programmes, although even here, the League weakened from the secretary's original wholesale condemnation to one of admitting appreciation of the artists but demanding "more variety," and slightly longer hours on Sunday transmissions. With these points we can quite agree, but were they important enough to warrant all the stir?

THE most interesting part of the meeting was, we think, that in which the "Radio Record" was attacked as being "prejudicial" to broadcasting. We found this quite entertaining and took the opportunity to speak, although we had not been invited or informed of the prospective attack. We will not pay the League's executive the compliment of taking it seriously on this point. When it is recollected that three members of the executive of the League are the radio writers of Auckland papers, and that we have recently had very good cause indeed to write very strongly about the utterly unfair criticism emanating from Auckland and being deliberately spread throughout the country; that, in fact, we were forced, in the interests of radio, to expose a definite concerted plan to pinprick broadcasting by a gentleman who boasted of his "pull" with the Press—no more need be said. There is no room for argument in our view that the worst enemies of broadcasting in New Zealand have been those who have persistently written down broadcasting and have refused to give credit for the very marked advances made in recent months.

IF the Auckland Listeners' League is in reality concerned with furthering broadcasting its most effective means of doing immediate good is to exercise such restraint as is possible over the lucubrations of its executive Press members and, while not in the slightest checking deserved and reasonable criticism or suggestions for betterment, repudiating the utterly unreasonable attitude adopted of late in some articles. The fact that Auckland dealers who are concerned with fostering sales have been at last impelled to declare their considered view that "the consensus of public opinion was that the programmes as a whole compared more than favourably with those given by Australian stations, especially in view of the restricted amount of local talent available," should show that the Press campaign mentioned has been a hindrance and not a help to radio.

other societies to co-operate in regard to programmes and send out 10,000 addressed envelopes to listeners; and, finally, we had in mind a Radio Olympia to give radio a boost. The whole of that went "phut" because Mr. Harris would not consent to disclose how much money Auckland station would get for programmes. Thereafter Mr. Harris said he would submit a scheme. This came along in November, but it was puerile.

#### AUCKLAND WANTED MORE MONEY.

The speaker went on to refer to the listeners' conference held in Wellington and the representations made to the Secretary of the Post Office at the conclusion of that conference, particularly with regard to the reconstitution of the Advisory Board. At that time Auckland had far the bigger majority of listeners, and they considered there was no reason why they should not get more money for their programmes. They said they were tired of keeping Christchurch and Dunedin going on Auckland money. Mr. Harris remained in Christchurch, and they never saw him, and his answers to their letters were usually very short.

"Coming nearer home," said Mr. Jacob, "we may complain that, perhaps, the programmes of IYA are not changed a great deal, but we cannot say the same of the staff; it is always the same story: the company is always in the right, and the people who are dismissed are always in the wrong!"

Dealing with programmes, Mr. Jacob said: "We appreciate our artists, and when we are criticising our programmes we do not mean anything personal against our artists." He did not know why the league should have "all this abuse hurled at us for daring to hold a meeting." They certainly gave Mr. Harris and Mr. McNamara plenty of warning. They also gave an open statement of facts to the papers, and what was the result? They had had a rather low-down attack on Auckland and its meeting through the "Radio Record." That was what they got for calling the people together at the end of two and a half years of broadcasting!

#### MR. TIARK COMES FORWARD.

Mr. Tiark opened his speech by moving that, while the control of broadcasting was in the hands of the present inefficient administration, no real improvement in broadcasting could be expected, and after eight months' experience the meeting reaffirmed its lack of confidence in either the capacity or good intentions of the Radio Broadcasting Company.

Mr. Tiark proceeded in rather a melodramatic style to speak in support of his resolution. He inveighed against the "monopoly" given the company, criticised the articles of association as being the most extraordinary he had ever seen, and the "most colossal piece of impertinence," etc. Being of a "Nosey-Parker disposition," he had recently made a legal search and found that certain alterations had been made in them to permit of shares being transferred. [These alterations are quite formal, we understand, and designed merely to permit of shares being transferred in the event of death, etc.—Ed.] Mr. Tiark continued that they had been accused of pin-pricking. This

(Continued on Page 14.)

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

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

WELLINGTON, FRIDAY, MARCH 30, 1928.

## SERVICE COMMITTEES.

Serious-minded listeners who are concerned with the full service that radio broadcasting can render the community, will study with interest the scheme for service committees submitted in another column by the general manager of the Radio Broadcasting Company. This proposal, in brief, recognises that many sections of the community are interested in aspects of broadcasting, and proposes that round each station there be grouped definite committees covering the major activities of the community, where they impinge upon broadcasting. An example will make the point clear. A Church committee, comprising representation of the leading denominations, will, in effect, organise the broadcasting of church services, and so far relieve the station director of responsibilities in connection therewith. In last week's issue we had the testimony of the Rev. D. Gardner Miller, Christchurch, that this scheme in its period of trial there had worked most admirably. Other social activities—sports, musical societies, dramatic societies, welfare institutions, etc.—will be organised similarly, so that there will be direct contact between all the major activities of the community and the Radio Broadcasting stations, which latter will then have the benefit of considered recommendations from the central leaders of each section. This scheme as a feeder for service has much to commend it.

But that is only one side to the scheme. It embraces two other major features calculated directly to appeal to listeners. The first is the appointment of special official listeners to check up on the quality of transmissions. This is very essential, for in spite of the best of care, it would be too much to expect that all transmissions should maintain an unvarying standard of accuracy, and it is to the interests of all that any departures from standard should immediately be notified and corrected. The existence of official listening posts, too, will operate as a safeguard for the company, and protect it from charges of bad transmission which may not be justified. Most experienced service men agree that a high percentage of blame directed against the transmission should more correctly be diverted to the reception and faults there. The second feature that appeals to listeners bears upon this point, and the encouragement of societies concerned with "Better Radio." The harnessing of the enthusiasm of the listener in this direction has great possibilities. The most outstanding characteristic of the radio "fan" is his enthusiasm, and the direction of this into recognised channels where those seeking assistance can procure it, is very much to be desired. It is for this reason that we heartily welcome this aspect of the scheme. "Better Radio" societies will, we hope, be the general order; they will then serve as the definite rallying point for newcomers and as educational centres.

Some criticism may be directed against the scheme. If any weak points can be exposed, it is highly desirable they should be brought out. We know the proposal for achieving a comprehensive scheme covering the company and the listener has occupied the attention of the general manager for some time. The subject is a big one, and has many angles. The scheme finally submitted has been an evolution from earlier propositions—necessarily so in so big a matter. In this field there has been no precedent for guidance. The United States has no scheme for contact with listeners; Britain has no detailed scheme; Australia has none. Their conditions in every case are different. Here, the centralisation of this public utility in unified control—a system towards which other countries are trending to avoid chaos—has given the opportunity for the development of direct bonds along the lines of service between the company and the community. The scheme is, we think, an earnest offer on the part of the company to make broadcasting of the greatest use to the community, and we sincerely hope that the service committees will respond to the opportunity, and that a strong body of societies aiming at "better radio" will be formed throughout the country. If these are developed on national and not parochial lines, the benefits that will accrue will be great.

In order to spread the message of radio, the largest and newest of Berlin's broadcast stations has equipped a huge van automobile to bring its programmes to remote communities. The car is really a good-will agent, as it travels about Berlin and environs transmitting programmes to the home station, for re-transmission on the regular wave. In Europe, the license fees paid by set owners provide the revenue for broadcasters, who are therefore directly interested in increasing their number. With the apparatus installed in the motor van programmes may be picked up at points around the city and transmitted to the central station, where they are put on the air on the regular wave. Part of the equipment is a powerful receiving set with which the suburbanites of Berlin are treated to excellent programmes.

Many letters were received by WJZ (New York, 30,000 watts) following a complete programme carried out without the aid of announcers. The experiment proved a great success, since the programmes continued smoothly and serenely, unpunctuated with the verbal expressions and interjections of the studio announcer, and it is expected that many other stations will follow this example. The programmes, however, are published in the Press.

Don't expect to obtain sweet-toned music from your loudspeaker if you are using 90 volts (or more) "B" battery potential on your last audio valve if you are not employing a "C" battery. What is the good of owning an expensive set which gives you poor tone?

Descriptions of grand operas now being produced in Sydney by J. C. Williamson, Ltd., accompanied by music, are being broadcast weekly by 3LO, Melbourne.

## Service Committee to Help Radio

(Continued From Front Page.)

"There is a persistent demand from listeners for reliable and independent information, and from those who contemplate installing receiving sets for advice as to the most suitable type of set for their requirements in the particular locality. Few people faced with this latter problem of deciding what to buy are in a position to know what must be embodied in a set to meet their requirements.

"This is a matter which is of vital importance to all who are interested in radio broadcasting, and one in which all interests are identical, for just as every satisfied listener is of assistance, so every dissatisfied listener is a hindrance to the development of the service. In addition, the improving of reception facilities is essentially a matter to be dealt with by local organisations, for conditions vary in different localities, and the type of set which is entirely satisfactory in one district may be quite unsuitable in another.

## BETTER RADIO LEAGUES.

"In order that these matters may be dealt with and the disabilities of listeners minimised, the Radio Broadcasting Company proposes to give official recognition to such existing radio leagues or societies including in their objects the improvement of radio reception facilities. Also in districts where such radio leagues are not in existence, the Broadcasting Company proposes to sponsor the formation of leagues, to be known as 'Better Radio Leagues' having for their purpose the fostering of improvements for radio reception.

"The membership of all leagues should be open to licensed radio dealers and transmitters, as well as to listeners, and it is suggested that their activities include:—

- (a) The establishment of bureaus for the assembling and recording of reliable information in respect to receiving apparatus.
- (b) The dissemination of information regarding improvements in facilities for reception.
- (c) The investigation of cases of poor reception, local interference and howling valves.

"In respect to section (a) it is suggested that leagues should elect technical committees to gather information

**NEXT WEEK WE WILL FEATURE A PARTICULARLY COMPREHENSIVE REVIEW OF THE PROGRAMME QUESTION GIVING VIEWS OF LISTENERS PRO AND CON ON THE QUALITY ISSUE AND TRAVERSING IN DETAIL SOME RECENT NEWSPAPER MATTER.**

regarding the installation, operation and maintenance of receiving apparatus capable of giving satisfactory results in the district over which the activities of the league extend. Much is to be gained by ensuring that all apparatus sold in a district is installed, operated and maintained so as to give the most effective results in the locality in which it is used.

"The activity outlined in section (b) will be educative and will keep listeners in the district in touch with the latest developments, thereby maintaining their interest in radio, making for better reception generally.

"The investigation of cases of poor reception, interference from local sources and howling valves, as provided in section (c), will greatly increase the prestige of the leagues, and will help to remove one of the greatest handicaps to broadcasting.

"The company is prepared to consider rendering assistance by appointing an officer to co-operate with those desirous of forming leagues, and to confer with them in respect of technical matters concerning reception apparatus and facilities generally.

## CONSTITUTION OF COMMITTEES.

"For some time past a church service committee had been operating successfully at 3YA, Christchurch, and had solved the problems of co-ordinating the order of broadcasts among those concerned quite harmoniously, and contributed very effectively to the general satisfactory conduct of church broadcasts. A constitution and rules of operation had been drawn up on the basis of that experience, and would be made generally available with the necessary adaptations for application to other organisations."

## FIGURES THAT TALK

3LO, Melbourne.... 98,000  
2FC, Sydney..... 52,000  
3AR, Melbourne... 42,000  
4 New Zealand  
stations 35,000

Australian figures are for the twelve months ending June last; New Zealand, the approximate sum ending December 31 last. Much newspaper talk in New Zealand has centred round £50,000 and £60,000 as being New Zealand's figures. The facts are very different, for these critics ignored the fact that licenses grew late in the year and revenue only pro rata. Service depends on finance and the best service to broadcasting can be rendered by appreciating fact and not expanding and spreading fiction.

## Special Shakespearean Day for April 23

Special efforts are in hand to make April 23, the anniversary of the birth of the Bard and also St. George's Day, a memorable Shakespearean day, and lovers of the Bard are advised to keep that evening free. It is anticipated that the best programme for that evening will come from 1YA, Auckland, although 2YA will also be to the fore with a very excellent evenings fare. Both of these programmes will be entirely Shakespearean features. Full details will be given later.

## CANNOT BE REMEDIED

## TROUBLESOME FADING

"MUST BE ACCEPTED LIKE THE WEATHER."

An American expert authority, dealing with the question of fading, says in a letter to the general manager of the Broadcasting Company:

"Dr. Alfred N. Goldsmith has very aptly summed up the present knowledge of fading. He contrasts it to a huge picture puzzle of many thousands of irregular pieces, of which only a few parts have been successfully put together. Although many technical papers have been published with reference both to periodic and steady fading, the sum of knowledge on this subject is so little that only the most general conclusions can be drawn. It is not unfair to state that the phenomenon of fading is little less than a mystery. There is evidence that many factors contribute to it. There are day and night effects, seasonal variations, and shorter periodic variations caused by local weather conditions and temperature and humidity conditions.

"The accepted theory of periodic fading, of the two and three-minute variety is that it is based upon lagging effects. Although radio waves are considered to travel at 168,000 miles a second, so rapidly that lagging can hardly be reasonably conceived, nevertheless such effects must exist. For example, a receiving station located 336 miles from a broadcast transmitter may receive the signal directly through the air and also by reflection from the heaviside layer. These two signal components are combined in the receiving system. If the heaviside layer fluctuates, either in its altitude or in its properties as a reflecting layer, the amount of time lag in the reflected signal as compared with the signal received directly, must naturally vary. The accepted theory is that the reflected signal tends to cancel out the signal received directly and that the two, three, and four-minute fading is caused by changes in the heaviside reflection effect.

"Another type of fading, encountered in short-wave transmission, is known as selective fading. The American Telephone and Telegraph Company, in its researches in connection with the transatlantic telephone, has conducted extensive inquiries into selective fading and a technical paper on this subject may be expected at any time within the next few months. The way in which selective fading is observed is to transmit simultaneously five separate audio-frequencies on the carrier wave. They are received at a distant point and filtered separately so that the intensity variation at each audio-frequency may be measured. Their intensity with respect to each other varies from moment to moment and seems to follow no regular law. At one moment, the middle frequencies may be preponderantly loud while the upper and lower are weak, and, at the next moment, the situation may be reversed. These effects have not been observed in the regular broadcasting frequencies."

The writer concludes with the remark:

"In the present state of the art, I doubt very much that information along these lines can be of any great value to you. However, if any progress is made in counter-acting fading conditions, by methods used in transmission, I will inform you of them promptly. In the meanwhile, fading must be accepted much as the weather is; there is little or nothing we can do about it."

## STRAIGHT HITTING

### "THE BULLETIN" SPEAKS OUT

A recent issue of "The Bulletin" contains an article on Australian broadcasting, which contains much of interest to New Zealand in its revelation of the attitude of the public to broadcasting there. Much of what "The Bulletin" addresses to the critics of the Australian stations—which, with their much greater revenue than the New Zealand stations enjoy, are able to give longer hours, etc.—might well be taken to heart by a small section of New Zealand critics. Compared with 3LO's £98,000 annually, and 2FC's £51,000, each for operating only one station, the New Zealand company last year operated four stations on a year's income of approximately £40,000, or an average of £10,000 each. That is a straight-out comparison which has weight, and makes more applicable than ever "The Bulletin's" remarks, as follow:—

"Much of the current criticism of the broadcast programmes is ill-informed and unfair. It obviously emanates from the kind of Australian (too numerous, unfortunately) who delights in depreciating the work of other Australians, and running down eminent fellow-countrymen when they return from abroad. It would be more generous and more truthful to acknowledge that the broadcasting companies have kept a fowl in the pot for many clever show people in slack periods, have provided opportunities for a surprising number of gifted young musicians and the like, who would otherwise have found it difficult to get a hearing, and have done at least a little for native-born composers and playwrights—may they do a lot more! In any case, nothing is to be gained by butting into their business in the fashion of meddling politicians. The stations should be made to understand that Australia expects them to do their full share in bringing the benefits of broadcasting to the widest possible public at the cheapest possible rate, without sacrificing merit to cheapness. But threats and kicks are not likely to do any good. Neither is 'nationalisation,' on which some foolish people have set their hearts."

## "A MATTER OF OPINION"

## EFFECTIVE RANGE OF STATIONS.

## PSYCHOLOGY OF LISTENERS.

An American radio authority, writing to the Broadcasting Company in respect to the power of stations, indicates that human nature is much the same in America as it is here. He says:—

"With regard to the practical service range of broadcasting stations, service range is as much a matter of opinion as it is of scientific measurement. When broadcasting first began, five hundred watt stations served listeners for several hundred miles; now that considerably higher powered stations have come into general use, a 500 watt station serves little more than a ten to twenty mile area, excepting where there are few stations, as we have in the Far West. It is likely that, if you increase the power of one of your four stations, you will find an insistent demand to increase the power of the remainder."

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# Easter Programmes at all Stations

## Special Passion Music for Good Friday

### GOOD FRIDAY AT 1YA.

Commencing this evening's programme will be a relay of a special Passion music service from St. Mary's Cathedral, the preacher being the Rev. G. C. Cruickshank, Vicar of St. Mark's Church. Mr. Edgar Randall is the organist. Following the church service a special Easter concert has been arranged. Madame Mary Towsey's Quartet, comprising Miss Gwenyth Evans, Madame Mary Towsey, Mr. Reginald Newbury and Mr. John Bree, will render a number of oratorio quartets, trios and solos, including "Cast Thy Burden," "Lift Thine Eyes" and "Crucifix."

An outstanding item will be Madame Mary Towsey's rendering of "Agnus Dei," with a violin obligato by Miss Ina Bosworth.

Mr. J. F. Montague will contribute several appropriate elocutionary numbers including "The Master Builder" and "The True Elysian Fields." Instrumental items will be played by the Bosworth-Hemus-Towsey Trio.

### STAINER'S CRUCIFIXION AT 2YA.

At 7.30 on Good Friday, 2YA will broadcast Stainer's sacred cantata "The Crucifixion," on relay from St. Thomas' Anglican Church, Newtown. The vicar is the Rev. C. V. Rooke, M.A., and Mr. W. H. Collie, L.L.C.M., is organist and choirmaster. The soloists will be Messrs. Church, Dunn and Sampson, and items will be given by a quartette consisting of Misses Foss, Messrs. Handcock and Williams.

"The Crucifixion" is one of Stainer's best known works and Easteride would seem incomplete without a rendering of it. St. Thomas' is one of the city churches possessing a magnificent organ and a very fine choir, the work of which is well known to listeners-in.

A studio sacred concert will follow. One of the vocalists will be Miss Jessie King, well known as a member of the Madame Gower-Burns Quartet at 3YA. Solos, duets and quartets will be sung by the members of the Apollo Quartet.

These popular singers will be heard in numbers appropriate to the sacred season. Together they will sing the quartet, "O, Thou Whose Sweet Com-

Easter will be observed by the Broadcasting Company with due reverence to the epoch marking occasion.

At all stations on Good Friday evening the broadcasts will be in accord with the religious celebrations.

On Sunday the church services will, of course, be in keeping with the meaning of Easter, and the concerts which will afterwards be broadcast from the stations will be sacred in character.

Worthy of note, too, will be the Thursday evening studio concert at 3YA. This will be provided by the Madame Gower Burns Grand Opera Quartet, who will sing gems of sacred music from oratorios and other works by some of the masters.

## Round the Studios on Easter Sunday

### AT 1YA.

The church service on Sunday evening will be relayed from the Pitt Street Methodist Church, the preacher being the Rev. L. Dalby, and the musical director, Mr. W. Leather. At the conclusion of the church service the organ recital will be relayed from the Auckland Town Hall, Mr. Maughan Barnett being the organist.

### AT 2YA.

On Sunday a morning service will be broadcast from 2YA. The service will be relayed from St. Gerard's Redemptorist Church.

At 6 o'clock there will be the usual children's session conducted by Uncle Ernest.

At 7 o'clock the evening service at St. Gerard's Redemptorist Church will be broadcast, after which there will be a studio concert given by the Etude Quartet and the Studio Trio.

### AT 3YA.

Sunday, being Easter Sunday, will be observed by special religious services and by an after-church

concert at 3YA. As usual, Uncle Sam will take the children's session, assisted by young friends from New Brighton. Then will follow a relay of the Eastertide service in St. Saviour's Church of England, Sydenham, the preacher being the Rev. Canon Mutter.

For the studio concert the vocalists will be Mrs. D. W. Stallard, Miss Anita Graham, Mr. W. Bradshaw and Mrs. W. H. Inkster, who will sing quartets as well as solo items. The concerted pieces will be "God So Loved the World," "O, Come All Ye Faithful," while "The Holy City," "O, Divine Redeemer" and "Ave Maria" are three grand sacred solos. "The Hymns of the Old Church Choir" will be sung by Mr. W. H. Inkster (bass). Cornet solos will be played by Mr. R. Ohlson.

### AT 4YA.

The Easter service at St. Andrew Street Church of Christ will be relayed. Pastor W. D. More will be the preacher. A studio concert will follow.

passion" (from J. H. Maunders' beautiful Easter music, "Olivet to Calvary"), and "Good-bye," a very sweet, but sad, work by A. Wheeler. Messrs. Robbins and Rodger will be heard in the duet, "Now We Are Ambassadors," from Mendelssohn's "St. Paul." Miss Chudley will sing, "He Shall Feed His Flock," from Handel's "Messiah." Mr. Rodger has chosen "Easter Flowers," a very dainty piece of music by W. Sander-son, and "Just As I Am," a number that is at once majestic and dramatic. Mr. Robbins will contribute two solos from "Olivet to Calvary"—"Like a Fair Vision," and "Not of This World."

Mr. Gordon Short will play the first movement from the Sonata, Op.

31, No. 3, by Beethoven. This sonata is one of the favourite ones amongst all recitalists, and the simplicity of utterance and the strong rhythmic contrasts and lovely melodies make it exceedingly popular with concert audiences. The first movement is full of freshness of spirit, with a captivating mood of burlesque. Lovers of Brahms' depth of musical thought will be pleased to learn that Miss Ava Symons, and Mr. Gordon Short will play part of his Sonata in D minor, a product of his most mature period, and a work of surpassing beauty and nobility. The slow movement of this sonata is amongst the most appealing of all his works for chamber music. It is a movement to be listened to with a

deep consciousness of the power of music to transcend words in expressing the depth of human feeling.

The numbers chosen by the Etude Quartet are in the main part particularly suitable to the great Easter festival. Miss Greta Stark will sing, "I Know That My Redeemer Liveth," from "The Messiah," by Handel; "Abide With Me" will be sung by Miss Rita Arnold, and a quartet, "Lift Your Glad Hearts," will be the opening number. Mr. Ray Kemp will sing "Fear Not Ye, O Israel," from "The Legend of Ner-budda," by Hubert Bath, will be sung a duet for contralto and tenor, "He Has Called," finishing with a delightful quartet.

### GOOD FRIDAY AT 3YA.

On Good Friday morning at 11 o'clock 3YA will broadcast a special church service which is to take place in Durham Street Methodist Church. It will be of an undenominational nature.

At 7 o'clock the evening programme will commence with the relay of a service in St. John's (Church of England), where the preacher will be the Rev. J. F. Coursey.

At 8.15 an after-church concert will be broadcast from the studio. The singers will be Miss Conn and Miss M. Lorimer, Mr. A. G. Thompson and Mr. T. G. Rogers, who will render solos, duets and quartets. Some of the choicest sacred compositions will be sung. An instrumental trio composed of Mr. Laurian Beck, Miss Nellie Ellwood and Miss Aileen Warren will play concerted as well as solo items.

A new rendering of the well-known "There is a Green Hill Far Away" will be sung by Mr. T. G. Rogers on Friday evening. The setting is by a Welsh composer, and is very popular in Wales.

### SACRED CONCERT ON THURSDAY AT 3YA.

Appropriate to Easter will be the programme at 3YA on Thursday. The contributing artists will be the Madame Gower-Burns Grand Opera Quartet, Miss Naare Hooper, L.T.C.L. (elocutioniste), Miss Thelma Cusack (violin), Miss Marjorie Smith (cello), and Miss Aileen Warren (piano). A rare treat will be provided for listeners. The items will include excerpts from oratorio such as "Elijah," "St. Paul," "Messiah" and "Judas Macabaeus." These will take the form of solos, duets and quartets.

### GOOD FRIDAY AT 4YA.

At Dunedin on Friday evening the Anglican Church is holding a special Easter service in St. Paul's Cathedral, and this will be broadcast by 4YA. The preacher will be the Rev. Canon Nevill.

A sacred concert will follow in the studio. Miss Flora Williamson's contralto solos will include "He Was Despised," "The Legend," and "O, Rest in the Lord." One of Mr. Neil Black's solos will be "Open the Gates of the Temple."

An address, "A Visit to the Holy Land" will be given by the Rev. Peter B. Fraser.

## On Short-wave

### SOME NEW STATIONS

### GOOD LONDON RECEPTION

Mr. F. W. Sellens writes:—

On Saturday afternoon, March 17, the "Palmolive" party were again responsible for the programme of music from 2XAD, which was received at fair speaker strength, and very good modulation. KDKA was heard, but their modulation is still bad.

A new American short-wave station was picked up at about 5.15 p.m. on 31.44 metres. This proved to be the short-wave transmitter of WSM, Nashville, Tenn., owned by the National Life and Accident Insurance Co., Inc. The call given was 4XD. At first they were very weak, but increased in volume as time went on. They signed off at about 7.50 p.m. During this time, the announcer said, "—like to hear from New Zealand, Alaska, North Pole, and South Pole."

On Sunday afternoon KDKA was very poor. 2XAF relayed a lecture in reference to St. Patrick's Day, and later orchestral selections from Albany, New York, signing off at 12.10 p.m., E.S.T. Wave-length given as 31.4 metres.

2AB, Wanganui, was on the air during the afternoon.

4XD, Nashville, Tennessee, was again heard from 4.50 p.m. till about 6 p.m. Morse spoilt reception, but the announcer's talk was nearly all readable.

2YD, Sydney, was picked up at fair volume, and good modulation. At 9.45 p.m., "AV, Japanese," was very faintly heard. I do not remember hearing this station during the evening prior to this.

On Monday morning, 3ME, Queen Street, Melbourne, announced that they were now changing over to 8LO, Melbourne, from which station a good programme was heard. Volume and modulation was good, but slight fading was noticed.

Music was heard faintly on about 37 metres.

RFM was in the air in the evening. 5SW was heard on Tuesday morning from 6.30 a.m.

On Wednesday morning, PCJJ was tuned in early, and a good selection of gramophone items heard till they concluded with the Dutch National Anthem at 6.35 a.m. 5SW and 2XAD carried out their usual test. Volume was still better, and their modulation is wonderful.

Big Ben was heard at 6.30 a.m. This was followed by a talk by Mr. Bernard Jones, editor of "Wireless Magazine," entitled, "A Few Notes on Broadcast Listeners." In reference to the B.B.C. programmes he stated that some people were satisfied and some not. His own opinion was that they had much improved since the new scheme, etc. Pianoforte selections followed, and at 6.57 a.m. it was announced that "Mr. Campbell will now speak to you from Liverpool." A lady announcer at Liverpool then introduced Mr. Campbell, who spoke on literary matters. (This was something of a novelty, being a double relay, Liverpool to London, and London to Chelmsford—5SW.)

On Thursday morning after Big Ben struck 7 p.m., a talk was given advocating the purchase of British goods as a means of reducing unemployment.

RFM was not as strong as usual during the evening.

On Friday morning PCJJ was very good, but reception in my case was spoilt by a swinging aerial caused by the strong wind at the time. The Dutch National Anthem concluded the programme at just turned 6.30 a.m.

A voice was heard on about 44 metres, but too weak and too much interference to understand. From 5SW after Big Ben, "Miss Jennie Hamilton will tell you about some of the new novels of the past fortnight." After breakfast I tuned them in again, when an orchestra was playing, and later a vocal chorus was heard, this must have been a relay, as, at the end of the item, clapping could be heard. During the interval when I was "off

## SPORTING

### NEXT WEEK'S BROADCAST

### CRICKET AND TROTTERING.

Tuesday, April 3: Test Cricket, New Addington (by courtesy of the committee of the New Zealand Cricket Council)—4YA.

Saturday, April 7: New Zealand Metropolitan Trotting Club's Meeting at Adingdon (by courtesy of the committee)—3YA.

the air," a friend tells me some Russian folk-songs were heard.

As 5SW is increasing in strength received here from week to week, it should be possible at mid-winter here to hear the greater part of the evening programme, as this morning's test is carried on till 2LO, London, closes down at about 12 p.m. G.M.T. (11.30 a.m. N.Z. M.T.).

On Friday evening RFM was heard on 70 metres. 2HMM, Bondi, N.S.W., was testing on about 32.5 metres.

On Saturday morning 5SW and 2XAD were reading reports of previous reception from each other, etc. Reception from 5SW, both on the two-way test and later on from 6.30 a.m. was not so strong as it has been recently. A morse station on the same wave caused some trouble.

### English-American Tests.

W. L. Gray, 4 Grant's Road, Christchurch: Repeated references in your S.V. column to the conversation heard on Wednesday and Saturday mornings, between 5SW and 2XAD have given many S.W. fans the impression that these stations are on the same wavelength during these conversations, hence the reception of both stations at once.

On Saturday, March 10, 5SW distinctly stated that both voices were heard owing to the loudspeaker he had in his office being near the microphone. Both voices are really heard from 5SW, the reply being merely a relay, and as a result not so strong. I have tuned in 2XAD in the lower wavelength, and of course have heard only his side of the talk.

On Wednesday, 21st I heard the whole evening programme from 5SW, who signed on at 6.30 a.m. and off at 10.35 a.m., our time, using a special type of amplifier.

### New Low Wave Station.

A. P. Morrison (Brooklyn): I have to report reception of a new American

short-wave station received on March 17 and 18. This station was first heard on Saturday, March 17, at 6 p.m., After first listening to his music for a little while an announcement was made to the effect that it was station 4XG, operated by the National Life and Accident Insurance Co., Nashville, Tennessee, U.S.A., and it was stated that they were operating on 31.41 metres, and they had been experimenting for the last week, this being their first real short-wave programme, which was being relayed from station WSM, Nashville, Tennessee, 338 metres. Most items heard were by dance orchestra and one or two vocal items, one dance item being "Charmaine." They closed down somewhere about 7.40 New Zealand time. He was also tuned in on Sunday, March 18. I had been listening to 2XAF till he closed down, and picked up 4XG about 4.40 p.m., broadcasting Irish melodies from WSM. Practically the same announcements were made as the previous day, and he was asking for reports from Alaska and other countries. On both occasions of hearing him his modulation was good and strength was equal to 2XAF, but reception was spoilt by "brass-founders" and the old-time interference, the everlasting howler. 4XG closed down on Sunday, March 18, 6.4 p.m., New Zealand time, the announcer there stating it was 12.34, Central standard time.

### A New Enthusiast.

M. Stafford: About a month back I was reading a report in your "Record" by Mr. Sellens re "Short-wave Reception," and I thought it would be a good pastime in wet weather to have a low-wave machine, so I went in for one. The first night I got RFM and JOAK. I could not under-

stand what they said, but I suppose it was all right. The music was good on the loudspeaker. The next morning I got PCJJ, Holland, good on loudspeaker, at about 5 till 7.30 a.m. About 4 p.m. I got 2XAF, General Electric Co., relaying music from WGY. I also heard the reception given to Mr. Hinkler when he landed on the beach at Bundaberg.

On Monday mornings at 6 a.m. we get "News Items" from the Melbourne morning papers and gramophone records. On Wednesday morning we heard London talking to Sydney and Bert Hinkler talking to London; also an English actress.

This morning, March 18, after having a good programme from Holland, I turned the dial control round to turn off and heard a voice and a man giving a lecture, etc. When he finished I heard very plain, "London Calling." Another lecture followed on education, etc., and the speaker apologised for pronouncing a wrong name last week. When he finished, "London Calling" again. I could not hear the name of the piece—the band played it, but it was the Wireless Military Band at a quarter past 7 a.m. At 23 minutes past 7 a woman sang a piece entitled "On the Water." At 23 minutes to 8 a.m. the band played again, and at quarter to 8 a woman sang again. At eight minutes to 8 the band played a lovely piece of music by Sullivan. At five past 8 a woman sang, and at twenty past it faded away.

### London On One Valve.

S. Saunders, Ghuznee Street.—I have just lately built myself a short wave

(Continued on Page 16.)

## WHAT'S RIGHT IN RADIO?

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# From the Woman's Point of View.

By VERITY.

## TO-DAY AND TO-MORROW

They say:

That the jubilee of Dunedin's Shakespeare's Club was an artistic and social success, as was to be expected in the southern city, that is apt on occasion to do things so uncommonly well. Many past members made a reappearance, and Mr. J. C. Stephens's speech was memorable and interesting, recalling as it did the club's history and achievement through the years, and in the great tribute he paid to its founders, through whose ability, enthusiasm, and loyalty the club had been an entertaining and educational force. Especial recognition of the great work of Mr. A. H. Burton was accorded, and also to Mr. T. W. Whitson, whose long association, intellectual attainments, and unselfish zeal will long be held in remembrance. Many notable names in the Dominion's history were recalled as patrons of the club, and Mr. Stephens, president of the club, made graceful reference to former holders of the office, and paid an especial tribute to the scholarly addresses of Mr. Alex. Wilson, afterwards published in book form.

On a stage decorated with graceful palms, and banners of blue and gold, past and present members are to be congratulated on their brilliant work in extracts from the imperishable plays; the performance of Mr. A. C. Hanlon and Mr. J. B. Callan in "Othello" being especially memorable. It was good to listen once more to the wonderful voice of the former as Hamlet, in which he was admirably seconded by Mrs. Gair's Ophelia, Mrs. Laurence, daughter of a former well-known dramatic singer, gave a very fine rendering of Queen Katherine; but, amid so much that was artistic and arresting, it is difficult to particularise. During an interval Miss Meda Pains, in gold tissue, sang a Shakespeare song to the charming lilting music of Dr. Arnes, causing one to wonder whether any modern stuff is as good; and Mr. G. W. Johnston sang a Schubert song delightfully. A pleasant supper party was held behind the stage after the performance, where it was interesting to see Mr. Hanlon like a present-day Shakespearean Bunthorne, surrounded by budding Juliets, Ophelias, and Desdemonas.

### The Joy of Looking Slim.

Style and slinness are not dependent on youth. When you are shopping or having tea at your club, watch the hundreds of well-dressed women who pass. See how many women of middle age or over have a graceful, easy carriage and style. As carefully observe the young girls of from 18 to 24. Some of them are exquisite, but are all of them? Alas! not by half. Many of them, with their heads craned out and their backs curved in, look dowdy and loosely hung together. This loosely hung together look is not attractive. The body should suggest a sculptural-like firmness. One sure and evident fact, and oh! so divinely comforting this is, is that style, posture, and a youthful figure are not attributes limited to either age or youth. The posture, litheness, and style of the many women of the stage and screen are a living proof of this statement. The years touch them so lightly because they have learned that the appearance of youth is merely a matter of knowledge applied with care and attention.

### Correct Posture.

Style in the art of dress or any other fine art is a matter of correct line. And never forget that the well-groomed woman, be she thin or stout, is the well-corseted woman. If you have the secret of correct posture you can retain at sixty the youthful lines of sixteen. The fault lies in your spine—not in your age, nor even in your excess weight. Ignorance of the proper function of the spine—the keystone to health, beauty and youth—has resulted in that thick settled look, that tell-tale sign of age!

Although we cannot all have the goddess-like lines of Venus de Milo, correct proportions, elasticity and litheness are within every woman's reach if she will inform herself what a perfect figure is and exert herself to attain it.—Miss Buebleach, 4YA.

### Women and Politics.

Thirty-eight women candidates have up to the present been endorsed by the three political parties to contest constituencies at the next general election in England. Nine are Conservatives, six are Liberals, and twenty-three are Socialists. Among the Conservative candidate will be the Duchess of Atholl, M.P., Lady Astor, M.P., Lady Iveagh, M.P., Mrs. Hilton Philipson, M.P., and Mrs. Pankhurst.

### Shock for Hall Porters.

There was a mild sensation at one of London's big hotels the other night. A superbly-dressed woman came in after the theatre for supper, bearing in her arms apparently a very young infant.

Commissionaires and hall porters ran forward amazed, and there was almost consternation when she was seen to fling the baby down with her bag and her wrap on to a settee.

It was then discovered that the baby was made of wax. It is the latest toy which women carry about with them.

Rather an expensive toy, for the cheapest of them costs about fifteen guineas.

### Premier's Story.

England's Prime Minister tells a good story against himself. Films were made of his tour with the Prince of Wales, and one company presented Mr. Baldwin with a copy. The other day he had a number of friends staying with him at Astley Hall, and it was decided to show the picture.

When the apparatus was fixed up it was found that a new carbon was required. So Mr. Baldwin motored into Kidderminster and called at a picture palace. At the pay box he asked the girl if he could see the manager. "No, you cannot," she replied. "He cannot see travellers in the evenings."

### Practice.

An applicant for the position as a floorwalker in a large store was asked what experience he had. "My twins have just finished teething," said he.

## YOUTH RENASCENT

Hearts and heads and heels of feather—  
These are gifts that will not stay;  
They triumph over any weather  
But Time will bear them all away.

Some say that on another earth,  
Or happy once again on this,  
Again as babes we come to birth  
So once more taste our youthful bliss.

Up the highway, young blood singing  
Chase the rim around the world,  
Feathered heels of youth are winging—  
All too soon are pinions furled.

Youth is gold in morning light,  
Flashes back from leaf and rill,  
Gleams in all there is that's bright.  
Flies from everything that's still.

If it's so, since age we must  
In nerve and sinew, heart and brain,  
Let us, ere we fall on rust,  
Kill ourselves to live again.

—F. Tennyson Jesse.

## TO-DAY AND TO-MORROW

### Emergency Heater.

To make an ordinary oil lamp into a heater in times of emergency, invert a large flower pot over the chimney. See that it does not touch the glass anywhere, and support it well. It will throw off quite a good heat.

### Cheese Custard.

Ingredients: 1lb. cheese, grated or shaved finely, a teacupful of bread-crumbs, one pint of milk, one egg.

Well butter a pie-dish. Put a layer of bread-crumbs, then a layer of cheese, until the dish is nearly full, bread-crumbs being on top. Add a little salt. Well beat the egg and add the milk. Then pour gently into dish until nearly full. Bake in a slow oven as you would a custard. Serve with mashed or chip potatoes. This is a very delicate and nourishing dish.

### "Modern Misfits."

A "Reconciliation Bureau" is part of the work of the Salvation Army (says the "Morning Post"). Its business is to mend the quarrels of husbands and wives, uncles and aunts, or, as the yearly report so aptly terms it, "of other such contentious individuals."

The work of the first year can now be studied in detail, and an eighteen-page booklet, published recently, is edited by Mrs. Booth. From these we learn that of 300 cases analysed by the Salvation Army during the first few months of the bureau's work, 69 were brought to a happy issue. In 171 cases people were advised and helped by employment or by being given financial aid, and in 23 cases legal or medical aid was found.

### Marriage as a "Release."

Salvation Army officers have learnt many things from their inquiries into other people's troubles. Here are some of the things they say:

"Too many boys and girls leave school without having obtained a rudimentary knowledge of the things that are vital to their future happiness."

"Young people should know more about the elementary laws of the mind and spirit, discipline, sacrifice, and hygiene."

"Many youths who contemplate marriage are actuated only by the desire to possess, while some young women regard matrimony as a release from the monotony and drudgery of factory, shop, or office life."

Unemployment and the housing shortage are responsible for many unhappy marriages, but Mrs. Booth also blames the "marked materialistic tendencies of thought which have a deteriorating effect upon family life." Lack of proper respect for parental authority and over self-assertion have made many marriages which have afterwards proved failures.

### Britain First Again.

Less than a year ago Mr. John L. Baird, the inventor of television, set up a receiving screen in a Glasgow hotel and, over a telephone trunk line, displayed the antics of a London office-boy. Recently New York cabled the news of successful television installation in four or five private houses. All this within a year! Where shall we be within ten years?

In public entertainment, education and the like a revolution is coming which will transform the world. And once again it is Great Britain, with her young Glasgow engineer, that has made another mighty contribution to the welfare of humanity.

Education, at long last, will become a living thing, at least in the humanities. Children will leave school knowing the Chinese better than neighbours in their own streets. They will have seen Canada and New Zealand for themselves. Agriculture they will have studied at first hand under all conditions.

They will have been on personally conducted tours over the great engineering works of the world.

Yes, a fascinating game this to dip into the future. And then, recalling with pride that the genius of a Briton has provided the means, we may well express the sincere hope that the material which we provide shall be fully worthy of our nation's greatness. At the least, television will make war more impossible and ridiculous than ever.—A. Corbett-Smith.

### Care of Linen Embroidery.

A great improvement on starch for doing up linen is the following "stock": Dissolve one ounce of gum arabic in half a pint of warm water. For use, add one tablespoon of this solution to a quart of water. Nothing is easier than to spoil a good piece of embroidery by washing it carelessly. Every trace of soap must, of course, be rinsed out before the drying process is begun; and then, as it is most unwise to wring an embroidered article, it should be folded in a clean dry towel, and as much moisture as possible pressed out of it. The embroidery should then be pinned right side up over a piece of clean blotting paper on a board or deal table; and if the pins are many and stuck in firmly and the material stretched as tightly as possible, the delighted embroideress will find waiting for her next day a beautifully crisp, clean piece of work which needs no ironing, and probably looking much finer than when the last stitches were being put into the embroidery. The storage of linen is of importance. A cool, fresh room in a press from which daylight is rigidly excluded is the ideal storage for linen. Under these conditions it will retain its white colour, preserve its silky sheen and far outlive linen which is stored in a hot press or which is constantly exposed to daylight.

MRS. R. THOMAS, 2YA.

### A Telling Retort.

A certain American statesman, well known for his ready wit and the telling retort he always has for an interrupter, was on one occasion addressing a rather rowdy meeting when a turnip was thrown at him. It fell harmlessly on the platform, and the statesman, picking it up, showed it to the audience. "Good heavens!" he exclaimed, "one of our opponents has lost his head!"

Irishwomen spend £1,000,000 annually on silk stockings.

## The Letters of Annabel Lee

My dear Elisabeth:

"The priest will always be a priest, even though no church ordains him." Her own memorable sentence is applicable to Miss Maude Royden herself, whom quite soon we are to be privileged to see and hear. In her recent book "I Believe in God," this gifted lecturer and writer outlines so persuasively the grounds for her triumphant asseveration of her consciousness of the Divine that almost she persuades to be Christians those who dwell in the darkness of doubt. Very tolerant her charity, and extensive her phraseology as she sets forth her creed of what might be termed modernised Anglicanism, Miss Royden being a potent force in the Old Land, and it is certain that our little Dominion will not fail in its gesture of appreciation and hospitality.

The dear old subject of the matrimonial misfit never fails to lightly lure the thoughts of young men and maidens, old men and children, as witness the crowd that gathers to gaze with passionate attention at the outward and visible signs of a "scrap" between Bill and his missis in Tory Street. At present this perennial problem engages the attention of playwrights; and Mr. Robert Lorraine shows power and imagination in his production of another of Strindberg's plays unpleasant. The unattractive topic, is Mr. Kipling's phrase, "the hatred of man for woman, the hatred of woman for man," and the exponents of the unhappy gospel of a husband and wife penned up on a lonely island. To the island comes an unsuspecting young man, whom the tigerish lady forces into amorous intrigue, while all the time tragedy stalks in the offing, although the denouement strikes an unconvincing note of reconciliation between this distressing couple.

More modern, if not more normal, and likewise "more suited to adult audiences," in the simple slogan of the picture proprietor, is "Regatta," another version of the triangle eternal, in which an Egyptian, persuasive, suave, and capable of exceedingly fiery spasms, tries his wiles with entire success upon the heart of an Englishwoman, beautiful, cultivated and of the great world. The lady responding with ardour, marriage is discussed with the alluring Oriental, the previous matrimonial tie apparently to be quite easily un-

tangled by an exceedingly accommodating spouse. It being represented to the chivalrous sheik, however, that such a union would spell social ruin to the lady, the Gordian knot is cut by his spectacular suicide. All very entertaining, and entirely unedifying.

Certain droll little books were published in the days when people of no importance desired to be taught how to comport themselves in what they termed the upper circles; these amusing compilations being termed "Habits" and Speech of Good Society," or something of the kind. Other times, other manner; and the modern version of this cult is the appointment, by a British Film Company, of a well-known society woman to act as social overseer in the production of the silent drama. A step in the right direction which it is hoped will be followed in America, remembering as one does disastrous solecisms committed in some unconsciously humorous production wherein was essayed the apparently herculean task of reproducing men and manners in the stately homes of England.

"Pilgrims," by Ethel Mannin, enchains the attention of those interested in the many manifestations of the artistic temperament. The diagnosis of life in the studio quarter of Paris, with its faintly ironic touch, is pitiless and diverting. Truth and realism are stamped on the description of these polyglot poseurs, who laugh and jostle and paint in this vivacious and up-to-the-minute novel concerning the world of art on the Continent. All very human and convincing, except the hero himself, whom Richard describes as a mug where women are concerned. Certainly somewhat of a laggard in love is this ultra-impressionistic young genius, who out-cubists Epstein in splashing portrayal of the colour of the world; and after some sordid explorations in the primrose path of the emotions, he loses his golden girl, who somewhat surprisingly gives herself to the lordly come-hither of a brilliant, Bohemian rake, who in profanity, ability and dirt is miles ahead of Mr. Locke's Beloved Vagabond.

While rambling through the best shop in town, with special favour I regarded an evening gown of black ring velvet, its slender flare of skirt and sombre distinction most agree-

### Buying Beauty.

Prophesying smooth things is always an endearing occupation, and, according to the advertisements to be seen in the pages of every paper which caters for feminine tastes, it is just as easy to be beautiful as it is difficult to be good. Beauty, that "excellent sweet thing," eludes most of us, but when all's said and done, half a loaf is better than no bread, and the half-loaf of good looks is cheap, if it helped to appease man's—and woman's—hunger for the withheld gift of the gods. But indeed beauty can be bought. Hie you to the stores of Mother Nature, present the cheque of a generous disposition and a healthy mind in a healthy body—for this you may purchase "a countenance in which doth meet sweet records." Sympathy—universal sympathy—is a wonderful beautifier of the countenance. Wherever you will find it masquerading as "good looks." After all, as Oscar Wilde said, "It is in the brain that the poppy is red."

### RETROSPECT

Grey sky, brown water, as a bird that flies.

My heart flits forth from these,  
Back to the winter rose of northern skies,

Back to the northern seas.

And I remember me how twain were one,

Beside that ocean dim,  
I count the hours passed over since the sun,

That lights me looked on him.

And dreaming of the voice that, save in sleep,

Shall greet me not again,  
Far, far below I hear the Channel sweep,

And all his waves complain.

—Andrew Lang.

### A Useful Night Lamp.

Into a four-ounce bottle put a piece of phosphorus the size of a pea. Then fill the bottle to about a third of its capacity with olive oil which has been heated, not boiled, for fifteen minutes. Cork it well, and in the dark it will be bright enough to see the time in the middle of the night.

This lamp ought to glow continuously for six months, but should it become dim, uncork the bottle for a few minutes, and it will glow brightly again.

### Cooking in Thermos Flasks.

A thermos flask (pint or quart size) is a handy and useful "fireless" cooker, in which almost any food that is cooked by boiling in water, stock, or milk, is cookable. Raw food put in the flask at night is hot and deliciously cooked in the morning. Put meat, fish, vegetables, and fruits (cut small) and cereals in flask, then add liquid for the cooking boiling and seal at once. No food cooks under three hours, but it keeps hot for twelve hours without overcooking or losing flavour.

# Some Features of Next Week's Programmes

## NOTES FROM 1YA

Excerpts from Rossini's "Stabat Mater" will form the concluding portion of the programme at 1YA on Tuesday. The principal solos in the oratorio, as well as a number of duets and quartets, will be sung. The studio production will be under the direction of Madame Irene Ainsley.

Earlier in the programme Madame Ainsley herself will sing "There is a Green Hill" (by Gounod) and "O Divine Redeemer," by the same composer. Miss Airline Rogers, who will make her first appearance before the microphone, will render several soprano solos, including "Elizabeth's Prayer," from Tannhauser. Coleridge-Taylor's "Eleanor" will be among Mr. Ripley's items, and Mr. Walter Brough will be heard in "The Diver." The Bosworth-Hemus-Towsey Trio will play, among other items, selections from "Marion," by Massenet.

On Tuesday, at 1YA, Mr. A. B. Chappell, M.A., will continue his talks on "Old New Zealand," the title of his lecture for this evening being "Missionary Beginnings."

The programme for Wednesday evening will consist of a relay of the Municipal Band concert from the Auckland Town Hall. The band will be under the conductorship of Mr. Christopher Smith, and will be assisted by the Hazell-Sutherland Duo, who will contribute contralto and baritone solos and duets.

For Thursday evening an orchestral concert has been arranged by the Aeolian Orchestra. This orchestra comprises approximately fifty players, and is under the able conductorship of Mr. Edgar Webb. Assisting the orchestra will be Mr. D. Wrathall, baritone, who will include among his items "The Little Ships," by Loughborough, "The Rebel," by Wallace, and a negro spiritual, "O Didn't It Rain?" Elocutionary items will be given by Mr. Fred Barker, including Mark Antony's oration over the body of Caesar, and the second of his series of "A Wayside Philosopher to His Friend."

The popular Lyric Quartet will provide the major portion of Saturday evening's programme. They will be heard in several quartets and solos, and Mr. Alan McIlwain will provide the humorous side of the programme. Assisting the quartet will be Ingall's Hawaiian Orchestra, who will render a number of Hawaiian melodies.

## FROM 2YA

The vocal part of the programme for Sunday, April 1, will be provided by the Wellington Ladies' Trio—Miss Nora Gray (soprano), Mrs. P. J. Townley (1st contralto), and Miss Molly Fenton (2nd contralto). This effective combination of voices is unusual for Wellington, and should provide listeners with another unique musical treat. This trio has previously sung from 2YA with considerable success and both in solo and concerted numbers, the quality of their voices, and their refined artistry add lustre to any programme. Their numbers demonstrate great variety and interest, ranging from classical works by Beethoven, Mendelssohn and Dvorak, to negro spirituals, and "Lead Kindly Light," by Liddle.

In addition to sparkling movements, from the melodious trios of Bach and Jadasohn, movements from the noble trio in B major will be played by the Symons-Billwood-Short Trio next week. The slow movement of this trio is one of the most exquisite movements in Brahms trios and one much beloved by lovers of tonal subtlety and the ethereal quality in music. It breathes a re-

pose and spirit of inward calm which is far removed from the haunts of the madding crowd. Some moments of lovely unaccompanied string playing are worth special notice. The scherzo which follows is full of the joyousness of youth and contains a melody of haunting sweetness. Written with full harmony, the second part of this movement is extremely rich in effect.

On Monday, April 2, the Ariel Singers will present an interesting miscellaneous vocal programme. Solo offerings include the coloratura "Ghost" aria from "Lucia di Lammermoor," and two Folk Songs of the Hebrides, by Mrs. Kennedy Fraser. In concerted work, these talented performers will be heard in an old glee by Dr. Calcott, and (male voices) two more of the Sea Chanties which they have already sung so successfully. Popular ballads, duets and part songs go to complete a programme which should be well up to the high standard which the Ariel Singers have set. This fine programme will be supplemented by Mr. Rothwell (flautist), Mr. Warwick (elocutionist), and Mr. Dutton (cornet).

An item of particular instrumental interest on Monday will be a movement from Liszt's concerto in E flat to be played by Miss Lalla Vondersloot, L.A.B. This is one of the most bril-



MISS WINNIE MCPAKE, of 4YA.

—Photo, Artlite.

liant of all compositions by the great Hungarian master, the originator of many unique effects for the instrument of which he was the world's greatest demonstrator. This work is written with orchestral accompaniment, but in the absence of an orchestra the accompaniment will be played on a second piano.

A programme with plenty of variety, containing both classical and modern numbers, will be given by the Orpheus Quartet on Tuesday, April 3. One concerted item will be "With a laugh as we go round," from the "May Queen," by Sterndale Bennett. This is the maypole dance, and is very joyous. The "Volga Boat Song" will be given, and also "Long Live Elizabeth," from "Merrie England."

The ladies of the quartet will sing a duet, "Sweet Evening Bells," and the gentlemen, "Gentle Moon." Mrs. Harris will sing "My Ain Folk," Miss Lily Mackie, "Fair Spring is Returning," from "Samson and Delilah." Mr. Arthur Coe's contribution will be "The Garland," by Mendelssohn, and Mr. Len Barnes will contribute "The Linden Tree," one of the most famous of Schubert's songs, and also "Onaway, Awake Beloved." Mr. Wright, with clarinet, and Mr. Haywood, with

Italian mandoline, will also contribute acceptable items.

On Thursday night, April 5, the Warblers' Male Quartet make their first bow to Radioland. The personnel has previously been announced, Messrs. Stewart Nelson, Ernest Elliot, Harry Matthew, and Thomas C. Wood, the last-named being well known at 2YA. The quartet numbers are "In a Gondola" (Linders), "Mosquitoes," "Bliss," and the pretty "A Night of Love." In the last number the solo will be taken by Mr. Ernest Elliot, the second tenor of the combination. Mr. Stewart Nelson's beautiful lyric voice will be heard in Tosselli's famous "Serenata," and "The Poplars of Elanders" (De Clerc), and Mr. Ernest Elliot will sing the popular "Caring for the Rose" (Sharp). His light, pleasing voice is admirably suited to this type of song. Mr. Harry Matthew, the baritone, will sing "In the Garden of Your Heart" (Dorel). This young singer should be just as popular in Radioland as he is on the Wellington concert platform. Mr. Thomas C. Wood, the well-known bass, will sing "For the Green" (Lohr), and "A Little Bit of Heaven" (Bull).

Once again there will be the Melodie Four to contribute most of the programme on Saturday. This talented and versatile combination is always a delight. The members of the quartet will present a choice selection of vocal items. Also on the programme will be Mr. R. Walpole, well known for his humour, Miss Ella McMahon (soprano), Mrs. Mildred Kenny's mandoline band, and the Studio Trio.

On Saturday Mr. George Ellwood and Mr. Gordon Short will play the slow movement from the sonata for cello and piano by Richard Strauss, one of the greatest composers of the last thirty years. He is mostly known by his mighty orchestral works and operas of startling dramatic intensity, but the few works he wrote in chamber music form show the master hand in the fine treatment of the instruments.

## 3YA JOTTINGS

There will be a number of first-class artists contributing to the concert programme of Monday, when Derry's Band will be in the studio. That popular singer from the Midlands, Mrs. Bingham Puddey, will make a welcome re-appearance, and Miss Sylvia Marshall, Mr. J. Francis Jones, and Mr. A. R. Thompson, all favourite radio vocalists, will also be singing. Elocutionary items will be given by Miss Mavis Kinsella.

The lectures on stamps at 3YA are proving most interesting even to non-collectors. The next talk will be on Monday, when Mr. W. Peers, of the Philatelic Society, will speak on "Stamps of the Air."

An excellent miscellaneous programme can be expected on Wednesday evening from the Dulcet Quartet, Miss Dorothy Jenkin, A.T.C.L., and the Beresford Banjo Band. Miss Mary Shaw, A.R.C.M., has three fine solos to which her magnificent soprano voice will do full justice. The popular and pretty "I Know a Band" will be sung by Miss Shaw and Miss Nellie Lowe, whose voices blend so delightfully. Miss Lowe, whose contralto voice is always a pleasure to listeners, will sing, among other items, "The Garden of Sleep," a great favourite with a past generation. Both Mr. A. G. Thompson and Mr. T. G. Rogers will be heard in solos and in the duet "Excelsior."

One of the recitations to be given by Miss Dorothy Jenkin will take many listeners back to the days of their youth, when "Curfew must not ring to-night" had a great vogue. Another recitation will be "The Song of the Market Place."

On Saturday there will be the usual radio vaudeville programme. Messrs. Charles Lawrence and Alfred Lovett, with Mr. Ivan Perrin at the piano, can supply an entertainment by themselves. A versatile trio are these three. The vocal items, both solos and duets, by the two first named, will comprise patter songs and other harmonious efforts for which Mr. Perrin will provide accompaniments, and later on some of his clever improvisations. A musical monologue to be given by Mr. Charles Lawrence will be "The 11.69 Express." He will also sing "Song of the Wanderer."

Miss Dulcie Mitchell, L.R.A.M., has three fine songs for Saturday evening: Bizet's "Agnus Dei" and "Still as the Night" and "Just Love Me."

Well known melodies, especially favourite plantation songs, will be played by the Scarff Spanish guitar and banjo mandolin trio.

Wellington music lovers know well the name of Miss Hilda Biechlynden, and listeners-in to 3YA on Saturday will have the pleasure of hearing this gifted singer.

Appearing again on Saturday evening will be Mr. W. H. Moses, whose elocutionary efforts are so enjoyable.

A novelty on Saturday's variety programme will be phonio fiddle solos by Mr. Vermer Lawford.

## AT 4YA

The Hanover Street Baptist Church service will be relayed by 4YA on Sunday evening. The preacher will be the Rev. E. S. Tuckwell. A studio concert will be broadcast at the conclusion of the service.

Tuesday night will be band night again, the Kaikorai Band this time providing the programme. A selection from the musical comedy "Merry Widow," and four pieces from the "Ballet Egyptienne," suite by Lugini, will be among the popular items. The band will be assisted with vocal items by Miss Christina Green (mezzo-soprano), Mr. Charles Edwards (tenor), and R. B. Macdonald (baritone), while Miss Madge Yates and Mr. Carl Moller will provide the elocutionary numbers.



MR. L. E. DALLEY, of 4YA.

—Photo, Artlite.

Listeners will be delighted with the programme which will be broadcast on Thursday evening. From beginning to end the items will be of a light, bright nature. Mr. Percy James, Otago's leading comedian, will be heard in some of his inimitable songs and stories, and a brilliant new comedienne, Miss Billie Lorraine, will feature some of the latest popular song successes, including "It Is the Last Word," and "Row, Row, Rosie." Miss Roma Buss will sing some light soprano numbers. Mr. Billy Gay will be heard in popular songs.

There will be several humorous sketches on Thursday's programme by Mr. Percy James and Miss Billie Lorraine, and also a new pair of comedians named "The Two Blue Ducks." Pastor W. D. More will give another humorous address. Instrumental music will be provided by Mr. Jack McNeil, Dunedin's leading banjo soloist, and Mr. J. McCaw, leading exponent of the saxophone in the southern city.

On Saturday evening listeners will hear a first-rate concert. Miss Molly Vickers (mezzo-soprano), Miss Agnes Guy (soprano), and Mr. L. M. Cache-maille (baritone) will provide the vocal portion of the programme. Piano solos

by Miss Muriel Caddie, violin solos by Mr. H. Riddle, L.T.C.L., and flute solos by Mr. Charles E. Gibbons, will comprise the instrumental numbers. Orchestral selections will also be relayed at intervals from the Empire Theatre.

## BENEFIT OF GOOD MUSIC

The following paragraph from an exchange illustrates the steady cultural influence of good music as diffused by broadcast activities. New Zealand unfortunately has not the number of first-class musicians that America possesses, but the Broadcasting Company is making the best use of those we have. More might be done by good gramophone records of masters, except, of course, that the critics would then "complain," as was formerly done.

"The high quality of radio programmes now being broadcast is doing much to help cultivate the appreciation and love of good music in America. Many world-famous pianists have been heard during the past year through a large New York station and its allied chain which covers the Eastern half of the United States. This has enabled many teachers and students who live away from the musical centres to hear concerts by the best musicians. The national advertisers who make these programmes possible have learned that there is a growing radio public that wants the greatest and best music and more of it.

"If you are fortunate enough to possess a fine radio, use it as an aid to your musical education. Take advantage of these good programmes.

When the announcement is made that some famous pianist is going to perform over the radio, make a note of the selections to be played. Get copies of each composition and have them ready when the programme starts. Then, follow from your copy as the artist plays, noticing all the little marks of expression—phrases, accents, diminuendos, crescendos—as you go along.

This will teach you to listen to music intelligently and will help you to know, understand, appreciate and enjoy to the fullest extent the works of the great masters. Make the most of your radio!"

## TRANSATLANTIC PROGRAMMES

### TESTS BY BRITAIN AND U.S.A.

Joint experiments to determine the feasibility of international re-broadcasting will be resumed soon with Riverhead, L.I. (U.S.A.), as the western end of the transoceanic link, it was learned recently from Dr. A. N. Goldsmith, chief broadcast engineer of the National Broadcasting Company of U.S.A.

"Our experiments so far have shown us that the receiver on this side of the Atlantic must be located in a spot outside of the city," said Dr. Goldsmith. "They have also demonstrated that it will be necessary to utilise exactly the right wavelength for the hour of the day on which the broadcast is to be transmitted, and just the right type of receiver and aerial equipment must be used."

Dr. Goldsmith said he had just received a radiogram from Captain Peter P. Lickersley, chief engineer of the British Broadcasting Company, saying the British engineers were prepared to go on with the experiments on any wave and with any apparatus that was found to be desirable. The twenty-four-meter wave, Dr. Goldsmith said, which has been tried during the last few weeks of the tests, had not shown the results which would be necessary to carry on such service effectively.

## See The Railway Easter Booklet

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## NOTES AND COMMENTS

(By "Switch.")

The Japanese Broadcasting Association have commenced a scheme to increase the power of the existing stations ten times. The idea is to stabilise crystal receivers. The purchasing power of the masses in Japan limit them to the crystal set.

Already the Police Department at Sydney has its own wireless station for sending directions to its patrol cars. A message is sent from a broadcasting station at Willoughby to the patrol cars, which immediately hurry to carry on instructions. Recently the radio patrol, after a wild drive from the city, caught a girl who was about to throw herself over the Gap.

If you have a "B" battery eliminator (power unit) do not make a practice of tinkering with the interior of the receiving set while the power unit is turned on. To be sure, there may be times when adjustments are required with the set "live" and, when they are, strict precautions against short circuits should be taken; such as the use of insulated tools. These are important because, while with batteries such a short-circuit of the "B" power might mean merely a running-down of the batteries; with a "B" supply device it may well mean the burning-out of equipment, such as transformers, costing several times more than batteries.

On the night of January 31 the broadcast stations in New York suspended operation from 9.25 o'clock till 9.46, and again from 10.6 until 10.55 o'clock owing to the shipping distress signal, SOS, being heard from a steamer off the coast during a heavy storm. The vessel, the Elswick Tower, 3920 tons, had grounded in a heavy fog.

An American radio writer recently described a device for picking up the conversation of birds. The system is reversed by a Dutch farmer, who has installed loudspeakers in his orchards, to frighten birds away from the fruit trees. If this method is adopted in England, unkindly suggests a British paper, "a use will be found for those educational talks which we hear so much about."

Radio pirates in Germany are termed Schwarzhörers (serve them right). A big sweep through the country found no fewer than 1003 unlicensed listeners, as against 558 in 1926 for the same period, and 502 for the year previous.

The primaries of audio-frequency transformers, sometimes burn out when the plate circuit is opened suddenly. In cases like this, possibly the best method for repairing the damage is to obtain a new transformer and to be more careful in the future. However, if a variable high resistor, of approximately 500,000 ohms maximum, is connected across the primary terminals of the broken transformer, this stage may be converted into a resistance-coupled amplifier, and the set may be used in this manner until the new transformer is procured.

Sir Harry Lauder says that he does not like the American system of broadcasting, and (says the Sydney "Wireless Weekly") thinks that he will not broadcast during his coming tour "over there." An English paper, commenting on the fact, says: "With all due respects to such a great artist, we venture to say 'Softly does it.' Biz is biz, and even Sir Harry does not work solely for his health. I have no doubt he will hear big figures talk when he gets to the U.S.A., and if he is the big man I take him for, he will reconsider his thoughts. Why not?" This summary looks black for Australia. Sir Harry Lauder has included the Commonwealth in his tour, and it was hoped that listeners would have an opportunity of listening to him. However, if "big figures" must first be reckoned with—??

Trickle chargers, designed for charging 6-volt batteries, can be easily adapted to 4-volt batteries without much expense and without any changes in the regular construction. It is necessary only to attach the end of a resistance winding from a 6-ohm rheostat to one of the posts on the charger. The resistance unit taken from one of the air-cooled type of rheostat is best for this purpose.

Successful tests were carried out in Melbourne recently by the Wireless Department, in conjunction with 3AR and 3LO, enabling the Department to obtain some idea of how close wavelengths can be allotted without interfering with either local or inter-State stations.

The first radio announcer in England was Mr. Arthur R. Burrows, who is at present in Geneva. He is interested in the new station to be built by the League of Nations.

An analysis has been prepared by 5SW, the British low-wave experimental station. Reports show that though reception was excellent in Canada, U.S.A., Buenos Ayres, Rio De Janeiro, Lima (Peru), West Indies, South Africa, India, China, Japan, and Egypt, Sydney (Australia), did not report such good reception. We in New Zealand have had very fair reception of 5SW, Chelmsford.

A new station at Laibach, Jugoslavia, is expected to be ready by Easter. It will operate on the normal broadcast band.

## Sunday, April 1st

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

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

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

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

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

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

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

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

## Monday, April 2nd

1YA AUCKLAND (333 METRES)—MONDAY, APRIL 2.

SILENT DAY.

2YA WELLINGTON (420 METRES)—MONDAY, APRIL 2.

3 p.m.: Chimes of the G.P.O. clock.  
3.1: Afternoon session—selected gramophone items.  
5.0: Close down.  
6.0: Children's session—Toby and Jeff, assisted by cousins from Thorndon Normal School—choruses, part songs, recitations and songs.  
7.0: News session, market reports and sports results.  
7.40: Lecture—Rev. J. R. Blanchard, "Aerial Medical Work in Australia."  
8.0: Chimes of the G.P.O. clock.  
8.1: Overture—"Der Freischutz" (Weber).  
8.5: Vocal Quartet—Ariel Singers, "Tally Ho!" (Wheeler).  
8.10: Cornet solo—Mr. H. J. Dutton, "Zelda" (Code).  
8.15: Soprano solo—Miss Jeanette Briggs, "Regnava Nel Silenzio," from "Lucia di Lammermoor" (Donizetti).  
8.20: Instrumental trio—Symons-Ellwood-Short Trio, "2nd and 3rd Movements Bache Trio" (Bache).  
8.30: Recitation—Mr. Stanley Warwick, "The Ballad of a Barber" (Beardsley).  
8.35: Violin solo—Miss Ava Symons, "Meditation" (Glazounow).  
8.40: Mezzo-contralto solos—Miss Ngaire Coster (a) "Mifanwy" (Foster); (b) "A Brown Bird Singing" (Coates).  
8.47: Pianoforte solo, with orchestral accompaniment played on second piano—Miss Lalla Vondersloot, "1st part of Concerto in E Flat" (Liszt).  
8.54: Bass solo—Mr. J. M. Caldwell, "The Road to the Isles" (Hebridean song arrgd. by Kennedy Fraser).  
8.58: Flute solo—Mr. L. W. Rothwell, "Nocturne Op. 9 No. 2" (Chopin).  
9.3: Weather forecast.  
9.4: Three-part glee—Ariel Singers, "Mark the Merry Elves" (Calcott).  
9.8: Cornet solo—Mr. H. J. Dutton, "The Rosary" (Nevin).  
9.13: Recitation—Mr. Stanley Warwick, "Horses" (Caine).  
9.18: Instrumental trio—Studio Trio, "Hymn to the Sun" (Rimsky-Korsakoff), (b) "Anitra's Dance" (Grieg).  
9.28: Bass solos, with male voices—Mr. J. M. Caldwell, (a) "Billy Boy" (Sea Chanties), (b) "Haul Away, Joe" (Arrgd. Terry).  
9.33: Violin solo—Miss Ava Symons, "Gavotte" (Bach-Burmeister).  
9.38: Tenor solo—Mr. Roy Hill, "An Island Shelling Song" (Hebridean Folk Song, arrgd. Fraser).  
9.42: Pianoforte solo—Miss Lalla Vondersloot, L.A.B., "2nd Part Concerto in E Flat" (Liszt), (with orchestral accompaniment played on second piano).  
9.49: Vocal duet—Misses J. Briggs and N. Coster, "In the Dusk of Twilight" (adapted from Offenbach).  
9.53: Flute solo—Mr. L. W. Rothwell, "Offertoire" (Donjon).  
9.58: Vocal quartet—Ariel Singers, "The Victor's Song" (Mendelssohn).  
God Save the King.

3YA CHRISTCHURCH (306 METRES)—MONDAY, APRIL 2.

3 p.m.: Afternoon concert session—selected studio items.  
4.30: Close down.  
6.0: Children's hour—Uncle Jack and Aunt Edna. Bedtime songs and stories.  
7.15: News session.  
7.30: Talk—Mr. W. Peers, under the auspices of the Christchurch Philatelic Society, "Postage Stamps of the Air."  
8.0: Chimes. Band concert by Derry's Military Band, under the conductorship of Mr. E. C. Derry, assisted by 3YA artists.  
March—The Band, "Great Little Army" (Alford).  
Baritone solo—Mr. J. Francis Jones, "Neath the Rolling Tide" (Jude).  
Waltz—The Band, "Dream of the Ball" (Joyce).  
Mezzo-soprano solos—Miss Sylvia Marshall, (a) "Song of the Soul," from "Climax" (Breil); (b) "Love's a Merchant" (Carew).  
Potpourri—The Band, "A Musical Switch" (Alford).  
Tenor solo—Mr. A. R. Thompson, "My Queen" (Blumenthal).  
Serenade—The Band, "Dream Pictures" (Losey).  
Mezzo-contralto solo—Mrs. Bingham Puddey, "The Little Damsel" (Novello).  
One step—The Band, "Harlequin" (Roberts).  
Recitation—Miss Mavis Kinsella, "The Cane Bottomed Chair" (Thackeray).  
Baritone solos—Mr. J. Francis Jones, (a) "Peg Away" (Bevan); (b) "The Crown of the Year" (Martin).  
Selection—The Band, "Rose Marie" (Friml).  
Mezzo-soprano solo—Miss Sylvia Marshall, "Slave Song" (Del Riego).  
Characteristic intermezzo—The Band, "In a Monastery Garden (Ketelby).  
Mezzo-contralto solos—Mrs. Bingham Puddey, (a) "Birds' Songs at Eventide" (Coates); (b) "A Brown Bird Singing" (Wood).  
Fox trot—The Band, "Me and My Shadow" (Jolson).  
Tenor solo—Mr. A. R. Thompson, "Genevieve" (Tucker).  
Humorous recitation—Miss Mavis Kinsella, "Hoodoo McFiggins' Christmas" (Leacock).  
March—The Band, "Vimy Ridge" (Bidgood).  
God Save the King.

4YA DUNEDIN (463 METRES)—MONDAY, APRIL 2.

SILENT DAY.

## Tuesday, April 3rd

1YA AUCKLAND (333 METRES)—TUESDAY, APRIL 3.

3 p.m.: Afternoon session—selected studio items.  
3.30: Talk on "Cooking by Electricity," by a representative of Messrs. Turnbull and Jones.  
4.0: Literary selection by the announcer.  
4.30: Close down.  
6.0: Children's session—Uncle George, assisted by pupils of Mrs. Bartley-Baxter—songs, duets, recitations, sketches, letters and birthday greetings.  
7.15: News and reports.  
8.0: Chimes.  
8.1: Relay of orchestral overture from Majestic Theatre Orchestra, under the conductorship of Mr. J. Whiteford-Waugh.  
8.10: Contralto solo—Madame Irene Ainsley, "There's a Green Hill" (Gounod).  
8.14: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Trio in F Major Op. 42, 3rd and 4th Movements" (Gade).  
8.23: Baritone solo—Mr. Walter Brough, "The Diver" (Lodger).  
8.28: Soprano solo—Miss Airini Rigers, "Elizabeth's Prayer," from "Tannhauser" (Wagner).  
8.33: Violin solo—Miss Ina Bosworth, "Romance," from "Concerto in D Minor" (Wieniawski).  
8.37: Tenor solo—Mr. Arthur Ripley, "Eleanor" (Coleridge-Taylor).  
8.42: Relay of orchestra interlude from Majestic Theatre.  
8.52: Talk on "Old New Zealand—Missionary Beginnings," by Mr. A. B. Chappell, M.A.  
9.4: Weather forecast.  
9.6: Contralto solo—Madame Irene Ainsley, "O Divine Redeemer."  
9.11: Instrumental trio—Bosworth-Hemus-Towsey Trio, selection from "Manon" (Massenet).  
9.20: Excerpts from "Stabat Mater" (Rossini), produced in the studio under the direction of Madame Irene Ainsley.  
Bass solo—Mr. W. Brough, "Pro Peccates" (Rossini).  
Contralto and soprano duet—Madame Irene Ainsley and Miss I. Rogers, "Quis est Home?" (Rossini).



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# Week - All Stations - to Apl. 8

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Tenor solo—Mr. A. Ripley, "Cujus Animam" (Rossini).  
 Contralto solo—Madame Irene Ainsley, "Fac ut Portem" (Rossini).  
 Vocal quartet—Madame Ainsley's Quartet, "Sancta Mater" (Rossini).  
 Soprano solo—Miss Airini Rogers, "Inslam Matus" (Rossini).  
 Vocal quartet—Madame Ainsley's Quartet, "Quando Corpus?" (Rossini).  
 10.0: God Save the King.

## 2YA WELLINGTON (420 METRES)—TUESDAY, APRIL 3.

3 p.m.: Chimes of the G.P.O. clock.  
 3.1: Afternoon session—selected gramophone items.  
 5.0: Close down.  
 6.0: Children's session—Uncle Jasper, assisted by cousins from Berhampore School—choruses, part songs, songs, birthday greetings, and stories.  
 7.0: News session, market reports, and sports results.  
 7.40: Lecture—"For the Man on the Land," by a representative of the Agricultural Department.  
 8.0: Chimes of the G.P.O. clock.  
 8.1: Overture—"El Abanico March" (Javeloyes).  
 8.5: Vocal quartet—Orpheus Quartet, "Long Live Elizabeth" (German).  
 8.10: Italian Mandolin—Mr. Lad Haywood, "She's Far From the Land" (Lambert).  
 8.15: Baritone solo—Mr. Len Barnes, "The Linden Tree" (Schubert).  
 8.20: Instrumental trio—Symons-Ellwood-Short Trio, "3rd and 4th Movements Trio in B" (Brahms).  
 8.30: Vocal duet—Mrs. Alice Harris and Miss Lily Mackie, "Sweet Evening Bells" (Warner).  
 8.35: Cello solo—Mr. George Ellwood, "Czardas" (Fisher).  
 8.40: Tenor solo—Mr. Arthur Coc, "The Garland" (Mendelssohn).  
 8.45: Clarinet solo—Mr. A. H. Wright, "Fantasia on Weber's 'Last Waltz'" (Le Thiere).  
 8.50: Contralto solo—Miss Lily Mackie, "Fair Spring is Returning" (Saint-Saens).  
 8.55: Organ solos—Mr. H. Temple-White, (a) "Interlude in B Flat" (Dubois), (b) "Andante in G" (Batiste), (c) "Marche Pontificale" (Lemmens).  
 9.10: Weather forecast.  
 9.11: Vocal duet—Messrs. Arthur Coc and Len Barnes, "Gentle Moon" (Schartau).  
 9.16: Instrumental trios—Stud'o Trio, (a) "Melody" (Rachmanoff); (b) "Cadiz" (Albeniz).  
 9.26: Soprano solo—Mrs. Alice Harris, "My Ain Folk" (Lemon).  
 9.30: Cello solo—Mr. George Ellwood, "Lento" (Chopin).  
 9.35: Vocal quartet—Orpheus Quartet, "Volga Boat Song" (Russian Folk Song).  
 9.40: Clarinet solo—Mr. A. H. Wright, "Romanzen" (Schumann).  
 9.45: Baritone solo—Mr. Len Barnes, "Onaway, Awake" (Cowen).  
 9.50: Italian mandolin—Mr. Lad Haywood, request items.  
 9.57: Vocal quartet—Orpheus Quartet, "With a Laugh as we go Round" (Stern-dale Bennett).  
 God Save the King.

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

SILENT DAY.

## 4YA DUNEDIN (463 METRES)—TUESDAY, APRIL 3.

3 p.m.: Town Hall chimes.  
 During the afternoon resumes of cricket test match, New Zealand versus Australia, will be given from the cricket ground.  
 3.1: His Master's Voice gramophone recital.  
 3.30: Social notes and news.  
 3.40: Studio music.  
 4.0: Address on "Domestic Uses of Electricity," by Mr. G. J. Butcher, of Messrs. Turnbull and Jones, Ltd.  
 4.15: His Master's Voice gramophone recital.  
 4.30: Close down.  
 6.0: Town Hall chimes.  
 6.1: Children's session—Big Brother Bill.  
 7.15: News session.  
 7.30: Address on "Tourist Resorts," by Mr. R. W. Marshall, of the Government Tourist Department.  
 8.0: Town Hall chimes.  
 Concert by the Kaitoraki Band under the conductorship of Mr. E. Franklin, and assisting artists.  
 8.1: Overture—Band, "Le Rose de Perrone."  
 8.8: Mezzo-soprano solos—Miss Christina Green, (a) "Who is Sylvia?" (Schubert); (b) "To Music" (Schubert).  
 8.14: Recitation—Mr. Carl Moller, "How We Hunted a Mouse" (Anon.).  
 8.19: Waltz—Band, "Golden Grain" (Trussell).  
 8.25: Baritone solo—Mr. R. B. Macdonald, "The Drum Major" (Newton).  
 8.29: Recitations—Miss Madge Yates, (a) "The Elf" (Noyes), (b) "Laughs" (Anon.).  
 8.38: Suite—Band, "Ballet Egyptienne," in four numbers (Lugini).  
 8.55: Tenor solos—Mr. Chas. Edwards, (a) "We Brave, Smile" (Pepper); (b) "The World's Awake" (Thayer).  
 9.2: Weather forecast.  
 9.5: Patrol—Band, "Turkish Patrol" (Michaelis).  
 9.10: Intermezzo—Band, "Chanson Indou" (Rimsky-Korsakov).  
 9.16: Mezzo-soprano solo—Miss Christina Green, "Where'er You Walk" (Handel).  
 9.20: Recitations—Mr. Carl Moller, (a) "The Thousandeth Man" (Kipling), (b) "History of a Music Box" (Adeler).  
 9.30: Selection—Band, "The Merry Widow" (Lehar).  
 9.42: Baritone solos—Mr. R. B. Macdonald, (a) "Will o' the Wisp" (Traditional).  
 9.52: Novelty number—Band, "Opera Mania" (Phillips).  
 9.57: Tenor solo—Mr. Chas. Edwards, "Serenata" (Toscelli).  
 10.0: March—Band, "Marche Brillante" (Hume).  
 10.5: God Save the King.

## Wednesday, April 4th

## 1YA AUCKLAND (333 METRES)—WEDNESDAY, APRIL 4.

3 p.m. Afternoon session—selected studio items.  
 4.0: Literary selection by the announcer.  
 4.30: Close down.  
 6.0: Children's session—Uncle Tom, assisted by Cavell, 1st Auckland Girl Guides—songs, choruses, stories, and birthday greetings.  
 7.15: News and reports.  
 8.0: Chimes.  
 8.1: Relay of Municipal Band concert from Auckland Town Hall, under the conductorship of Mr. Christopher Smith, assisted by the Hazell-Sutherland Duo, who will give the following items from the studio:—  
 Contralto solos—Miss Phyllis Hazel, (a) "Pray for My Heart" (Stephenson); (b) "Farewell, Thou Outbound Ship" (Lambert).  
 Baritone solos—Mr. Frank Sutherland, (a) "Comrades of Mine" (James); (b) "Stock Rider's Song," from "Australian Bush Songs" (James).  
 Vocal duets—Hazell-Sutherland Duo, (a) "The Whip Poor Will," from "Sally" (Kern); (b) "La Serenata" (Tosti).  
 10.0: God Save the King.

## 2YA WELLINGTON (420 METRES)—WEDNESDAY, APRIL 4.

SILENT DAY.

## 3YA CHRISTCHURCH (306 METRES)—WEDNESDAY, APRIL 4.

3 p.m.: Afternoon concert session—selected studio items.  
 4.30: Close down.  
 6.0: Children's hour—Uncle Peter and Mother Hubbard, assisted by Mr. Tulloch and friend, with banjo and other instruments.  
 7.15: News session.  
 8.0: Chimes.  
 Orchestral selection.  
 Baritone solo—Mr. A. G. Thompson, "The Sailor's Prayer" (Keel).  
 Soprano solo—Miss Mary Shaw, "Orpheus With His Lute" (Sullivan).  
 March and selection—Beresford Banjo Band, (a) "The Grosvenor" (Folkestone); (b) "Blanche" (Ellis).  
 Tenor solo—Mr. T. G. Rogers, "Nirvana" (Adams).  
 Song melody and march—Beresford Banjo Band, (a) "You've Found a New Toy" (Long); (b) "Dinky's Patrol" (Newton).  
 Soprano and contralto duet—Misses Mary Shaw and Nellie Lowe, "I Know a Bank" (Horn).  
 Recitation—Miss Dorothy Jenkin, A.T.C.L., "The Song of the Market Place."  
 Contralto solo—Miss Nellie Lower, "The Garden of Sleep" (de Lara).  
 Vocal quartet—The Dulcet Quartet, "In This Hour of Softened Splendour" (Pinsuti).  
 Weather report and forecast.  
 Baritone solo—Mr. A. G. Thompson, "Son of Mine" (Wallace).  
 Soprano solos—Miss Mary Shaw, (a) "Almond, Wild Almond" (Peel); (b) "Cradle Song" (McFadyen).  
 Selections—Beresford Banjo Band, (a) "Ruby" (Ellis); (b) "My Irish Home Sweet Home" (Stanley and Swain).  
 Tenor solos—Mr. T. G. Rogers, (a) "The Last Watch" (Pinsuti); (b) "I Hear You Calling Me" (Marshall).  
 Contralto solos—Miss Nellie Lowe, (a) "When the Stars Were Young" (Rubens); (b) "Little Holes in Heaven" (Hope).  
 Selections—Beresford Banjo Band, (a) "The Coloured Major" (Henry); (b) "Breakdown" (Dallas).  
 Recitation—Miss Dorothy Jenkin, "Curfew Must Not Ring To-night" (Thorpe).  
 Tenor and baritone duet—Messrs. T. G. Rodgers and A. G. Thompson, "Excelsior" (Balfe).  
 God Save the King.

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

SILENT DAY.

## Thursday, April 5th

## 1YA AUCKLAND (333 METRES)—THURSDAY, APRIL 5.

3 p.m.: Afternoon session—Selected studio items.  
 4.0: Literary selection by the announcer.  
 4.30: Close down.  
 6.0: Children's session—Peter Pan—songs, recitations, pianoforte selections, stories, letters and birthday greetings.  
 7.15: News and reports—book review.  
 8.0: Chimes.  
 Orchestral concert by the Aeolian Orchestra, under the conductorship of Mr. Edgar Webb.  
 8.1: March and overture—Aeolian Orchestra, (a) "Distant Greetings" (Dorling); (b) "Bohemian Girl" (Balfe).  
 8.21: Baritone solo—Mr. Dudley Wrathall, "The Little Ships" (Loughborough).  
 8.26: Flute and clarinet duet—Aeolian Duo, "Lo! Here the Gentle Lark" (Bishop).  
 8.34: Intermezzo—Aeolian Orchestra, "Petite Melodie" (Engelmann).  
 8.44: Recitals—Mr. F. Baker, (a) "A Wayside Philosopher to His Friend," (b) "Broadcasting Your Thoughts."  
 8.54: Selection and Marche—Aeolian Orchestra, (a) "The Rose"—English Airs (Myddelton), (b) "Minuet" (Beethoven).  
 9.9: Weather forecast.  
 9.11: Baritone solos—Mr. D. Wrathall, (a) "O, Didn't it Ran" (Negro Spiritual), (Burleigh), (b) "The Rebel" (Wallace).  
 9.19: Overture and Marche—Aeolian Orchestra, (a) "Barber of Seville" (Rossini); (b) "The Nightingale," from "Land of the Birds" Suite (Klein).  
 9.39: Recital—Mr. F. Barker, "Mark Antony's Oration Over Caesar" (Shakespeare).  
 9.45: Sonata and Marche—Aeolian Orchestra, (a) "Adagio," from "Sonata Pathetique" (Beethoven), (b) "Coronation March" (Eilenberg).  
 10.0: God Save the King.

## 2YA WELLINGTON (420 METRES)—THURSDAY, APRIL 5.

3 p.m.: Chimes of the G.P.O. clock.  
 3.1: Afternoon session—Selected studio items.  
 5.0: Close down.  
 6.0: Children's session—Uncle Sandy and party.

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Radio fans sometimes are moved to attempt to outlive their fishermen friends in the stories they tell. For example, a letter which came from a faraway French colony states: "I was sitting beneath my tent with my wife when a huge tiger crept up to the opening. We were fascinated and could not move. The animal crept nearer and nearer and prepared to spring. Just then a voice came from our loudspeaker. 'This is the Eiffel Tower, Paris, calling.' . . . The tiger turned and fled, and so did we!"

The straight line frequency condenser provides equal separation of stations over the entire dial instead of bunching them at the lower end as is the case with a straight line wave-length condenser.

The 10,500,000 people of New York State use about one-seventh of all the electricity produced in the United States. Their use is increasing rapidly. About 20,000 meters are installed every month. A considerable proportion of the current is used for radio batteries.

Increased activity in radio requires twelve examiners at the United States Patent Office now to do what three did in 1918.

During his recent visit to the United States Marconi said: "There are three things that have attracted my attention since I have been in New York: First, the enthusiasm for radio; secondly, the practical purposes to which radio is utilised here; and third, I am surprised at the general knowledge of radio among the younger generation. The elders are dragged into radio for entertainment, but youths are in it because they find it fascinating, and that is most fortunate. Youth has the punch and the go. That is what will send radio ahead."

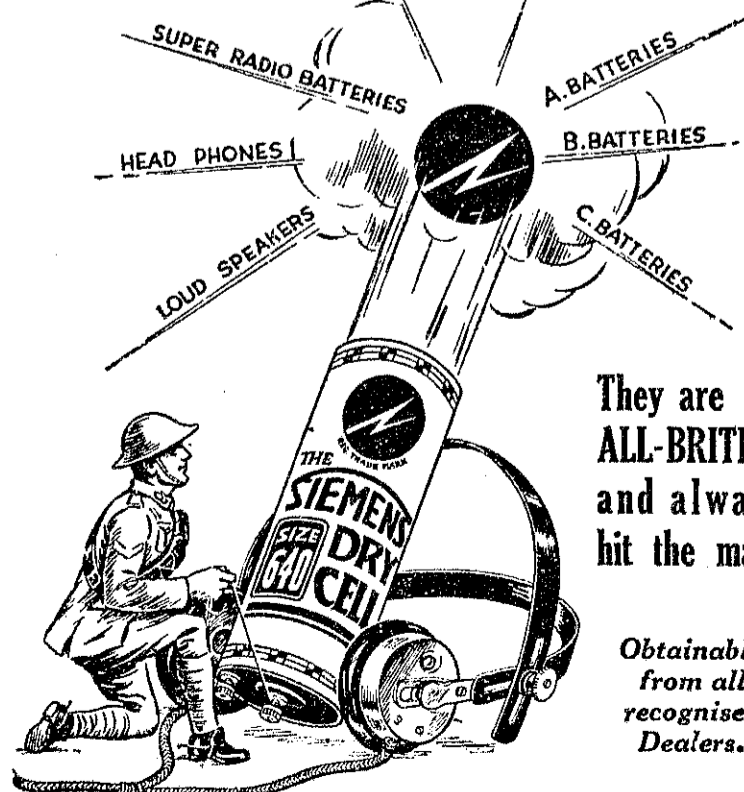
A Tennessee University professor recently announced: "We hope to be able to predict just as the weather is forecast what radio reception conditions will be thirty-six hours in advance. There is some disagreement as to whether this short range radio reception prediction can be done, but I have found it to be fairly accurate for the last two years. When there is a storm to the north-west of the station the reception will be weakest. Signals also will be weak when they have to pass through a storm area. Thunderstorms can be heard by a radio set for from 1500 to 3000 miles. That accounts for seasonal static. In summer there are more thunderstorms in range. Therefore there is more static. If you take a weather map and see in what directions the storms are moving in relation to your location you can tell whether or not your radio reception will be good."

Only long-published music and literature, on which there are no royalties to be paid, are being broadcast by French Government stations. There was a certain amount of liberty taken with modern works until recently, when damages were assessed against Government officials for failure to pay royalties.

The average radio receiver is used three hours a day, or about 1000 hours a year.

Very often in amplifying circuits where "high-mu" tubes are used, a howl is noticed in the loud-speaker, which is not changed by adjustments of the receiver. If this happens the valves are said to be "microphonic." This condition can usually be corrected by moving the loudspeaker away from the receiver; although it may be necessary to mount the valves on sponge rubber to dampen the vibrations. There are on the market at present several types of shock-proof sockets which are helpful in preventing this microphonic ringing. Replacing valves in the socket is also helpful in some cases.

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# Programmes Continued

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- 7.0: News session, market reports and sports results.  
8.0: Chimes of the G.P.O. clock.  
8.1: March—Central Mission Band, "Kneller Hall" (Greenwood).  
8.6: Vocal quartet—The Warblers, "In a Gondola" (Linders).  
8.11: Cornet solo—Bandsman V. McPherson, "Alas, Those Chimes" (Round).  
8.17: Bass solo—Mr. Thomas C. Wood, "For the Green" (Lohr).  
8.22: Humoresque—Central Mission Band, "A Trip to Blackpool" (Raymond).  
8.31: Tenor solo—Mr. Stewart Nelson, "Serenata" (Tosselli).  
8.35: Bass quartet—Bandsman V. McPherson, L. Baker, H. Smith and W. Baker, "Scotia" (Round).  
8.41: Tenor and quartet—Mr. Ernest Elliott and The Warblers, "The Night of Love" (Spier).  
8.46: March—Central Mission Band, "The Boomerang" (White).  
8.52: Baritone solo—Mr. Harry Matthew, "The Garden of Your Heart" (Dorel).  
8.57: Recital—Mr. Cedric Gardiner, "Desert Love" (Anon).  
9.2: Weather forecast.  
9.3: Waltz—Central Mission Band, "Moonlight" (Pecorini).  
9.9: Tenor solo—Mr. Ernest Elliott, "Caring For the Rose" (Sharpe).  
9.13: Fantasia—Central Mission Band, "Sabbath Chimes" (Round).  
9.25: Bass solo—Mr. Thomas C. Wood, "A Little Bit of Heaven" (Ball).  
9.29: Selection—Central Mission Band, "La Gypsy" (Rimmer).  
9.41: Tenor solo—Mr. Stewart Nelson, "The Poplars of Flanders" (De Clerf).  
9.45: Recital—Mr. Cedric Gardiner, "That Cat" (Rutherford).  
9.50: Vocal quartet—The Warblers, "Mosquitoes" (Bliss).  
9.54: Central Mission Band, "The Great Little Army" (Alford).  
God Save the King.

## 3YA CHRISTCHURCH (306 METRES)—THURSDAY, APRIL 5.

- 5 p.m.: Afternoon concert session—Selected studio items.  
6.30: Close down.  
6.0: Children's hour—Chuckie. Story of "Mutiny of the Ship Bounty." Several of Miss Lucy Cowan's pupils will also assist.  
7.15: News session.  
8.0: Chimes. Sacred concert by Madame Gower-Burns's Grand Opera Quartet, assisted by Miss Thelma Cusack, Marjory Smith, and Aileen Warren (instrumentalists), and Miss Naare Hooper (elocutionist).  
Soprano and contralto duet—Madame Gower-Burns and Mrs. Ann Harper, "Lord, Bow Thine Ear," from "Elijah" (Mendelssohn).  
Tenor solo—Mr. Harold Prescott, "How Vain is Man," from "Judas Maccabaeus" (Handel).  
Recitation—Miss Naare Hooper, A.T.C.L., "Know Thyself" (Morgan).  
Cello solo—Miss Marjory Smith, "Air" (Matheson).  
Soprano solos—Madame Gower-Burns, (a) "Legend of Christ" (Tschai-kowsky); (b) "There is a Green Hill Far Away" (Gounod).  
Baritone recitative and aria—Mr. Bernard Rennell, "Draw Near," "Lord God of Abraham" (Mendelssohn).  
Instrumental trio—Miss Thelma Cusack (violin), Miss Marjorie Smith (cello), Miss Aileen Warren (piano), "Trio in C Minor" (Beethoven).  
Contralto solo—Mrs. Ann Harper, "Abide With Me" (Liddle).  
Tenor and baritone duet—Messrs. Harold Prescott and Bernard Rennell, "Crucifix" (Faure).  
Weather report and forecast.  
Soprano solo—Madame Gower-Burns, "Jerusalem, Jerusalem" from "St. Paul" (Mendelssohn).  
Recitative and aria—Mr. Harold Prescott, "Comfort Ye, My People," "Every Valley Shall be Exalted," from "Messiah" (Handel).  
Violin solo—Miss Thelma Cusack, selected.  
Recitation—Miss Naare Hooper, "Get Up And Get Out."  
Vocal quartet—Grand Opera Quartet, "Cast Thy Burden Upon the Lord," from "Elijah" (Mendelssohn).  
Baritone solo—Mr. Bernard Rennell, "Sombre Woods" (Lully).  
Instrumental trios—Misses Thelma Cusack, Marjorie Smith and Aileen Warren, (a) "Chanson Triste" (Tschai-kowsky); (b) "Minuet in A" (Boccherini).  
Vocal quartet—Grand Opera Quartet, "Oh, Come Everyone That Thirsteth," from "Elijah" (Mendelssohn).  
God Save the King.

## 4YA DUNEDIN (463 METRES)—THURSDAY, APRIL 5.

- 7 p.m.: Town Hall chimes.  
7.1: Request gramophone concert.  
7.40: News session.  
8.0: Town Hall chimes. Comedy programme.  
8.1: Relay of light orchestral music from Octagon Theatre.  
8.11: Humorous songs and stories—Mr. Percy James, (a) "Auntie" (Dakin); (b) "Not Exactly Original" (Gillespie).  
8.20: Banjo solo—Mr. Jack McNeil, "Take Me Back Home Again, Lizzie" (Weidt).  
8.24: Light soprano solo—Miss Roma Buss, "Silvery Moon" (Finnerty).  
8.27: Saxophone solos—Mr. J. McCaw, (a) "Nola" (Zamecnick); (b) "Love Came Calling" (Zamecnick).  
8.34: Humorous sketch—The Two Blue Ducks, "Topical Budget," Part 2 (Onawe).  
8.40: Humorous solo—Miss Billie Lorraine, "He's the Last Word" (Donaldson).  
8.44: Humorous address—Pastor W. D. More.  
9.0: Weather forecast.  
9.2: Popular songs—Mr. Billy Gay, (a) "Ain't She Sweet" (Ager); (b) "Sing Me a Baby Song" (Donald).  
9.7: Relay of orchestral music from Octagon Theatre.  
9.15: Humorous sketch—Miss Billie Lorraine and Mr. Percy James.  
9.25: Banjo solos—Mr. Jack McNeil, (a) "My Lady Jazz" (Weidt); (b) "Pickin's" (Reser).  
9.32: Light soprano solos—Miss Roma Buss, (a) "Peter Pan" (Henderson); (b) "Sometime" (Fiorito).  
9.38: Saxophone solo—Mr. J. McCaw, "Sequidella," Spanish dance" (Gurewick).  
9.42: Humorous sketch—The Two Blue Ducks, "Topical Budget," Part 2 (Onawe).  
9.54: Popular song—Mr. Billy Gay, "When I Get My Bolshevik Blood Up" (Allen).  
10.0: God Save the King.

## Friday, April 6th

### 1YA AUCKLAND (333 METRES)—FRIDAY, APRIL 6.

- 7.30 p.m.: Relay of special Passion music from St. Mary's Cathedral. Minister: Canon Percival James. Preacher: Rev. G. C. Cruickshank (Vicar of St. Mark's). Organist: Mr. P. Randall.  
At the conclusion of the church service a special Easter programme will be broadcast from the studio.  
8.30: Vocal quartet—Madame Mary Towsey's Quartet, "Cast Thy Burden" (Mendelssohn).  
8.34: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Finale from Trio No. 4" (Mozart).

Radio sets may come and radio sets may go, but burned-out valves and batteries still bring joy to the dealer. A tragic lesson for radio fans in erecting an aerial comes from Buffalo, N.Y., where three members of a family were electrocuted. Fred J. Voltz, jun., and his 17-year-old son were stringing the wire across the roof when it came in contact with a high-tension power line. Both collapsed on the roof, instantly electrocuted. Mrs. Voltz, seeing them fall, rushed to their aid, and when she attempted to clear the bodies of the wire, received the fatal charge. Radio experts, commenting on the accident, deplore the fact that laymen, inexperienced in electricity, attempt installations in dangerous locations. They point out that no wire should be strung where it may touch an electric lighting or power wire, should either become slack.

Erratic reception prevalent in many home-built radio receivers often may be traced to grid leaks of improper value. The higher the resistance of the grid leak the more sensitive the detector action. However, when a leak of high value is used on nearly stations the tone quality suffers. A variable grid leak, or two or three leaks of different values might be kept at hand for use in meeting various reception conditions.

An American broadcasting authority states that with the use of a double microphone system, studio engineers are able to do a better job of monitoring a programme, for they control the solo and accompaniment parts separately, and can thus get better balance.

The material from which conductors are made governs their resistance. In addition to this, the length and cross section determine the resistance of the two conductors of the same substance. The resistance of two conductors of the same material are directly proportional to their length and inversely proportional to their cross section.

A spider web antenna arrangement is employed by the Swedish. The wires are all brought to a central ring. From here they radiate to the roofs of many houses around. The lead-ins are taken off the centre of the wire.

Loose or dirty battery connections often account for some of the noise heard in a receiving set. The terminals on a storage battery are coated with lead to withstand corrosion from the spray of electrolyte, but nevertheless they oxidise quickly. Clean them with a rag dipped in household ammonia.

Radio development in Denmark and Norway is said to be undisturbed by atmospheric static being almost unknown.

Plate glass which it is planned to use as an insulator or panel may be drilled easily with a three-cornered file lubricated with turpentine. The glass should be placed upon a flat level surface.

A whistle or hum may be caused from any of the following:—  
Microphonic tube in detector socket; speaker too close to set; trouble in B power unit; run down B battery (especially unit or section supply voltage to detector tube); heterodyne of two broadcasting stations; no contact at grid or plate tube socket contact of detector or A. F. tube; grounded A. F. transformer winding; or detector grid circuit open.

Many a radio owner has never listened to a complete number, not to mention a full programme, in his desire to reach out beyond the great unknown. The frequency of KGO, Oakland, California, regularly heard in New Zealand, is now crystal controlled. This monitor of the frequency of transmission signals has been installed at large expense. In the adoption of the crystal quartz oscillator for KGO, the General Electric engineers are using the most accurate method known for maintaining frequency. It will now be impossible for the station to vary more than one-tenth of 1 per cent. from its assigned wave-length of 384.4 metres. Some of the new condenser types of microphones have already been installed at the station. This microphone is used by KOA, Denver and WGY, Schenectady, both General Electric stations, WJZ, New York, and the pioneer broadcaster, KDKA Pittsburgh. Engineer Walter D. Kellogg reports that the latest type of the condenser microphone reduces the effect of extraneous noises caused by mechanical vibrations where the broadcast takes place.

This is the season when the children are put to bed early so as not to interfere with father in his efforts to better his DX record.

A conservative estimate made by the United States Government shows that out of the entire population of that country more than one-fifth are rated as radio owners, which exceeds the number of owners of Ford's. This doesn't seem possible, but it is the truth.

A license has been granted to the British East African Broadcasting Company to operate a broadcasting station in Nairobi, Kenya, Africa.

To clean wet battery terminals it will be found that ordinary household ammonia used full strength will remove any acid, corrosion and dirt which has formed. Corrosion, due to acid spray when charging, can be prevented by first cleaning terminals with ammonia and then covering with a thin film of vasoline.

- 8.43: Contralto solo—Miss Gwenth Evans, "Turn Ye To Me" (Lawson).  
8.47: Recital—Mr. J. F. Montague, "The Master Builder."  
8.52: Tenor solo—Mr. Reginald Newbury, "If With All Your Hearts" (Mendelssohn).  
8.56: Vocal trio—Madame Mary Towsey, Miss Mollie Atkinson and Miss Gwenth Evans, "Lift Thine Eyes" (Mendelssohn).  
9.0: Weather forecast.  
9.2: Pianoforte solo—Mr. Cyril Towsey, "Study" (Chopin).  
9.5: Mezzo-soprano solo—Miss Mollie Atkinson, "Ave Maria" (Schubert).  
9.10: Recital—Mr. J. F. Montague, "The True Elysian Fields."  
9.15: Baritone solo—Mr. John Bree, "O Lord, We Pray Thee" (Gounod).  
9.19: Soprano solo—Madame Mary Towsey, "Agnus Dei" (Bizet), with violin obbligato by Miss Ina Bosworth.  
9.24: Instrumental trio—Bosworth-Hemus-Towsey Trio, selected.  
9.33: Vocal duet—Madame Mary Towsey and Mr. R. Newbury, "Crucifix" (Faure).  
9.38: God Save the King.

## 2YA WELLINGTON (420 METRES)—FRIDAY, APRIL 6.

- 7.30 p.m.: Relay of Stainer's Sacred Cantata, "The Crucifixion," from St. Thomas's Anglican Church, Newtown. Vicar: Rev. C. V. Rooke, M.A. Organist and choirmaster: Mr. W. H. Collic, L.L.C.M. Soloists: Messrs. Church, Dunn and Sampson. Quartet: Misses Foss, Messrs. Handcock and Williams.  
After the church service the following concert programme will be broadcast from the studio:  
8.45 (Approx.): Vocal quartet—Apollo Singers, "O Thou Whose Sweet Compassion," from "Olivet to Calvary" (Mauder).  
Baritone solo—Mr. S. E. Rodger, "Easter Flowers" (Sanderson).  
Instrumental trio—Symons-Ellwood-Short Trio, "1st Movement from Trio in B" (Brahms).  
Soprano solo—Miss Moana Goodwill, "When the Roses Bloom" (Reichardt).  
Vocal duet—Messrs. Robbins and Rodger, "Now We Are Ambassadors," from "St. Paul" (Mendelssohn).  
Pianoforte solo—Mr. Gordon Short, "1st Movement of Sonata Op. 31, No. 3" (Beethoven).  
Contralto solo—Miss Hilda Chudley, "He Shall Feed His Flock," from "The Messiah" (Handel).  
Tenor solos—Mr. E. W. Robbins, (a) "Like a Fair Vision" (Mauder); (b) "Not of This World" (Mauder).  
Violin and piano—Miss Ava Symons and Mr. Gordon Short, "Sonata for Violin and Piano in D Minor—1st Movement" (Brahms).  
Contralto solos—Miss Jessie King, (a) "He Was Despised," from "The Messiah" (Handel); (b) "There is a Green Hill Far Away" (Gounod).  
Baritone solo—Mr. S. E. Rodger, "Just As I Am" (Hawley).  
Vocal quartet—Apollo Singers, "Good-bye" (Wheeler).  
Close down.

## 3YA CHRISTCHURCH (306 METRES)—FRIDAY, APRIL 6.

- 11 a.m.: Relay of combined church service (under the auspices of the Minister's Association), from the Durham Street Methodist Church.  
7 p.m.: Relay of evening service from St. John's Church of England, Latimer Square. Preacher: Rev. J. F. Coursey. Organist and choir mistress: Miss J. Black.  
The following after church concert will be given from 3YA Studio:—  
8.15: Baritone solo—Mr. A. G. Thompson, "Soul of Mine" (Barns).  
8.18: Tenor solo—Mr. T. G. Rogers, "Green Hill Far Away" (Short).  
8.21: Mezzo-soprano solo—Miss M. Lorimer, "Tired Hands" (Sanderson).  
8.24: Cello solo—Miss Nellie Ellwood, "Death and the Maiden" (Schubert).  
8.27: Contralto and baritone duet—Miss Conn and Mr. A. G. Thompson, "Snowdrops, No. 1" (Lehmann).  
8.30: Tenor solo—Mr. T. G. Rogers, "Lead Kindly Light" (Evans).  
8.33: Mixed vocal quartet—Misses Lorimer, Conn, Messrs. Rogers and Thompson, "Beloved! If God So Loved Us" (Barnby).  
8.36: Instrumental trios—Mr. Laurian Beck (violin), Miss Nellie Ellwood (cello), Miss Aileen Warren (piano)—"Adagio and Finale," from "Trio Op. 171" (Gurlitt).  
8.44: Mezzo-soprano solo—Miss M. Lorimer, "Give" (Cowan).  
8.47: Baritone solo—Mr. A. G. Thompson, "The Living God" (O'Hara).  
8.50: Contralto and baritone duet—Miss Conn and Mr. A. G. Thompson, "Snowdrops, No. 2" (Lehmann).  
8.53: Violin solo—Mr. Laurian Beck, "Meditation" (Gounod).  
8.56: Contralto solo—Miss M. Lorimer, "He Was Despised," from "Messiah" (Handel).  
8.59: Instrumental trios—Mr. Laurian Beck, Miss Nellie Ellwood and Miss Aileen Warren, (a) "Ave Maria" (Schubert); (b) "Polish Allegro" (Scharwenka).  
9.4: Tenor and baritone duet—Messrs. T. G. Rogers and A. G. Thompson, "So Thou Lifest Thine Divine Petition," from "Crucifixion" (Stainer).  
9.7: Mixed vocal quartet—Misses Lorimer and Conn and Messrs. Rogers and Thompson, "The Day is Gently Sinking to a Close" (Smart).  
God Save the King.

## 4YA DUNEDIN (463 METRES)—FRIDAY, APRIL 6.

- 3 p.m.: Town Hall chimes.  
3.1: His Master's Voice gramophone recital of Easter music.  
4.30: Close down.  
7.0: Town Hall chimes.  
7.1: Relay of special Easter service from St. Paul's (Anglican) Cathedral. Preacher: Rev. Canon Nevill. Organist: Mr. E. Heywood, F.R.C.O.  
After the church service the following concert programme will be broadcast from the studio:—  
8.15: Contralto solos—Miss Flora Williamson, (a) "He Was Despised," from "The Messiah" (Handel); (b) "The Legend" (Tschai-kowsky).  
8.22: Bass solo—Mr. Neil Black, "Open the Gates of the Temple" (Knapp).  
8.43: Contralto solo—Miss Flora Williamson, "O Rest in the Lord" (Mendelssohn).  
8.47: Bass solos—Mr. Neil Black, (a) "Easter Hymn" (Bridge); (b) "Out of the Deep" (Martin).  
8.55: Easter music.  
9.0: Close down.

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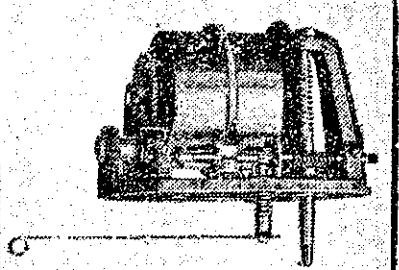
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# Programmes Continued

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## Saturday, April 7th

1YA AUCKLAND (333 METRES)—SATURDAY, APRIL 7.

- 3 p.m.: Afternoon session—Selected gramophone items.  
4.0: Literary selection by the announcer.  
4.8: Further selected gramophone items.  
4.30: Close down.  
6.0: Children's session—Cinderella. Songs, recitations, stories, letters, and birthday greetings.  
7.15: News and sports results.  
8.0: Chimes.  
8.1: Relay of orchestral overture from Rialto Theatre Orchestra, under the conductorship of Mr. Henry C. Engel.  
8.16: Vocal quartet—Lyric Quartet, "O Peaceful Night" (German).  
8.20: Recital—Mr. Thomas Harris, "King Robert of Sicily" (Longfellow).  
8.25: Tenor solo—Mr. Herbert Richards, "So Fair a Flower" (Willeby).  
8.29: Instrumental trio—Bosworth-Hemus-Towsey Trio, "1st Movement C Minor Trio" (Mendelssohn).  
8.39: Soprano solos—Miss Alma McGruer, (a) "Big Lady Moon" (Coleridge-Taylor); (b) "The Cuckoo" (Lehmann).  
8.47: Humour—Mr. Alan McElwain, Musical Moments.  
8.52: Vocal quartet—Lyric Quartet, "In Absence" (Buck).  
8.56: Relay of orchestral interlude from Rialto Theatre.  
9.6: Weather forecast.  
9.8: Vocal duos—McGruer-Smith Duo, (a) "In the Springtime" (Travers); (b) "Flower Duet," from "Madame Butterfly" (Puccini).  
9.16: Bass solo—Mr. Ernest Thomas, "When a Maiden You Have Chosen" (Florestini).  
9.20: Recitals—Mr. T. Harris, (a) "A Wild Night At Sea" (Dickens); (b) "Old Aunt Mary's" (Riley).  
9.28: Contralto solo—Miss Beryl Smith, (a) "Sink, Red Sun" (Del Riego); (b) "O Divine Redeemer" (Gounod).  
9.36: Tenor solo—Mr. Arthur Ripley, "Love Lily" (Davies).  
9.40: Humour—Mr. A. McElwain, more mirth from "The Sentimental Bloke" (Dennis).  
9.46: Instrumental trio—Bosworth-Hemus-Towsey Trio, "Samson et Delila" (Saint Saens).  
9.56: Vocal quartet—Lyric Quartet, "The Long Day Closes" (Sullivan).  
10.0: Close down.

2YA WELLINGTON (420 METRES)—SATURDAY, APRIL 7.

- 3 p.m.: Chimes of the G.P.O. clock.  
3.1: Afternoon session—Selected studio items.  
5.0: Close down.  
6.0: Children's session—Aunts Gwen and Dot, assisted by pupils of Miss Gwen Shepherd, choruses, songs, duct, and stories.  
7.0: News session, market reports, and sports results.  
8.0: Chimes of the G.P.O. clock.  
8.1: Overture—"Poet and Peasant" (Suppe).  
8.5: Vocal quartet—Melodie Four, "Integer Vitae" (Fleming).  
8.9: Mandolin Band—Mrs. Mildred Kenny's Mandolin Band, (a) "Hold Thou My Hand" (Briggs); (b) "March on Scipio" (Handel).  
8.17: Tenor solos—Mr. C. A. Williams, (a) "Serenade" (Brahms); (b) "Sunday" (Brahms).  
8.22: Instrumental trio—Symons-Ellwood-Short Trio, "First Movement of Jadasohn's Trio".  
8.32: Bass solo—Mr. W. W. Marshall, "Neath the Rolling Tide" (Jude).  
8.38: Tenor solo—Mr. Sam. Duncan, "Angels Guard Thee" (Godard).  
8.43: Piano and "cello"—Messrs. Gordon Short and George Ellwood, "Slow Movement from Sonata for Cello and Piano" (Strauss).  
8.53: Humorous recital—Mr. R. Waipole, "The Sad Story of Mrs. Paddlewick" (Hayes).  
8.59: Weather forecast.  
9.0: Baritone solo—Mr. R. S. Allwright, "The Last Muster" (Pontet).  
9.6: Soprano solos—Miss Eilla McMahon, (a) "Songs My Mother Taught Me" (Dvorak); (b) "I Hear You Calling Me" (Marshall).  
9.12: Instrumental trios—Studio Trio, (a) "By Silent Hearth" (Wagner); (b) "Spanish Dance" (Moszkowski).  
9.22: Vocal quartet—Melodie Four, "Thuringian Volkslied" (Abt).  
9.27: Tenor solo—Mr. C. A. Williams, "Pale Moon" (Logan).  
9.31: Mandolin Band—Mrs. Mildred Kenny's Mandolin Band, (a) "Open the Gates of the Temple" (Knopp); (b) "Calvary" (Rodney).  
9.39: Bass solo—Mr. W. W. Marshall, "The Diver" (Jude).  
9.43: Tenor solo—Mr. Sam. Duncan, "Somewhere a Voice is Calling" (Tate).  
9.47: Humorous recital—Mr. H. Walpole, "Beams and Things" (original).  
9.52: Baritone solo—Mr. R. S. Allwright, "Bois Epais" (Lully).  
9.56: Vocal quartet—Melodie Four, "The Two Roses" (Gilberte).  
Close down.

3YA CHRISTCHURCH (306 METRES)—SATURDAY, APRIL 7.

- 11.30 a.m.: Relay description of Metropolitan Trotting Club's Easter meeting at Addington, by courtesy of the club.  
6 p.m.: Children's hour—Uncle Sam and Aunt May, songs, stories, riddles, and birthday greetings.

"Hemi" (Wairarapa) drops me a cordial note of appreciation and asks "Which is better for long distance reception in the country—a long or a short aerial?" A long aerial always gives better long-distance reception but is less selective than a short aerial. In the areas near the city if one desires to cut out the local station a shorter aerial is advisable. For the country "Switch" recommends an aerial of about 145ft., including the lead-in. It is an axiom in radio that the higher the aerial the greater its range. If "Switch" lived in the country nothing lower than an aerial 60ft. above the ground would suit him.

A New York radio enthusiast has written the Federal Radio Commission urging the establishment of a station which would broadcast suggestive treatment for "the sick in mind and body." His letter in part follows: "My object is to build a radio station in New York to be supported by voluntary contributions and used exclusively for humanitarian purposes. A good radio should be installed in every gaol and hospital. A criminal or suicide is not one through choice, but because of adverse currents in his life. Many have been brought up in poverty and superstition. Although the commissioners feel that some of the New York writer's suggestions are worthy, they say that the launching of such a project is not within their jurisdiction.

The season's developments in loud-speakers in the United States seem to show a trend toward the horn again. Recent efforts of acoustic engineers have brought forward an improved horn which is said to rival or outclass the cone. The new horn does not by any means resemble the old "goose-neck" type, as the new horn generally is made up in a cabinet very similar to that which houses the cone.

A writer in the New York "Radio News" says:—"Since reception of the Australian broadcast stations has become possible in nearly all sections of the United States, interest in them has been aroused. One of the most interesting factors is the difference in time. The stations in Sydney and Melbourne are fifteen hours ahead of our Eastern standard time. When it is 9 p.m. in Sydney it is 6 a.m. the same day in New York. Although the Australian stations can be received any month in the year, March and October seem to be the best months."

A new method of taking down speech is presented in a system which is now being extensively advertised in England, and which consists of abbreviated longhand signs, whilst the principals follow those of shorthand; (uk lmo sprdi nw) in speedwriting means "You can almost speedwrite now." It is suggested that amateurs desirous of taking down morse signals will eventually adopt this system, instead of writing the complete word. It provides, also, a handy method for the taking down of weather reports, etc., by broadcast listeners.

Signora Marconi, wife of the famous radio inventor, owns a portable radio receiver, which is nearly unique, in that there is only one other like it, that being owned by the Prince of Wales. Senatore Marconi himself designed the set, which has an A.C. power unit and batteries enclosed.

A mysterious wireless station, supposed to be somewhere on or in the vicinity of the Baltic coast, and probably near Denmark, has been noticed by the Danish authorities. This station sends out Bolshevik propaganda in the Danish language. There is a theory that this station is operated secretly by the Bolsheviks, as the Press were recently advised that the Soviet Government proposed to establish a propaganda station in another country. Existence of this so-called secret "red" station was first discovered by Professor William Rung, who when trying to tune in the Copenhagen broadcasting station heard this Bolshevik propaganda being sent out by an unknown station. No details are available as to the wavelength, except that it must be very near that of the Copenhagen station.

Brisbane, Sydney, Melbourne, and Hobart are an hour and a half behind New Zealand time. Adelaide is two hours behind New Zealand time, and Perth is three and a half hours behind.

Some listeners are at a loss to account for the claim that 2YA, Wellington, is the second most powerful broadcast station in the British Empire, when a number of Australian stations are also listed as having a power of 5000 watts. The method of rating the Australian stations is different to that in New Zealand. For instance, the March issue of the New York "Radio News" states that an Australian station rated at 5000 watts has an output of about 2500 watts (American rating). The New Zealand rating is similar to that of the United States.

At a luncheon meeting of the Radio Trade Group Division, in the Advertising Club, 23 Park Avenue, New York, lately, Benjamin Gross, president of Gross-Brennan, Inc., speaking on "Radio Merchandising and Advertising," urged his hearers to co-operate with manufacturers and jobbers in making radio advertising "clean." He expressed the opinion that the sales volume could be increased 100 per cent. through proper co-operation.

- 7.15: News session.  
7.30: Sports results.  
8.0: Chimes.

- Vocal harmony duet—Messrs. Charles Lawrence, Alfred Lovett, with Ivan Perrin at the piano, "Ten, Ten, Tennessee" (Tilson).  
Baritone solo—Mr. Charles Lawrence, "Song of the Wanderer" (Lanez).  
Pianoforte novelties—Mr. Ivan Perrin, "Extemporations."  
Fox-trot song—Mr. Alfred Lovett, "To-morrow" (Courtney).  
Jolly Trio—Messrs. A. Lovett, Chas. Lawrence, and Ivan Perrin at the piano, "Lucky Days."  
Spanish guitar and banjo-mandolin trios—The Scarff Trio, (a) "Poor Old Joe"; (b) "Swanee River."  
Contralto solo—Miss Dulcie Mitchell, L.R.A.M., "Angus Dei" (Bizet).  
Recitation—Mr. W. H. Moscs, "A Christmas at Sea" (Stevenson).  
Phono fiddle solos—Mr. Verner Lawford, (a) "The Question" (Elkin); (b) "Avalon" (Burcher).  
Mezzo-soprano solo—Miss Hilda Blechynden, "The Bird With the Broken Wing" (Gibson).  
Weather report and forecast.  
Patter sketch and harmony duet—Messrs. Alfred Lovett and Charles Lawrence, with Ivan Perrin at the piano, "Sally's Not the Same Old Sally" (Beaton).  
Piano solo novelties—Mr. Ivan Perrin, "Musical Switches."  
Musical monologue, with special effects—Mr. Charles Lawrence, "The 11.69 Express" (Robertson).  
Jolly Trio—Messrs. Alfred Lovett, Chas. Lawrence, with Ivan Perrin at the piano, "Just Like a Butterfly."  
Spanish guitar and banjo-mandolin trios—The Scarff Trio, (a) "For the Term of his Natural Life" (Hayes); (b) "My Old Kentucky Home."  
Contralto solos—Miss Dulcie Mitchell, (a) "Still as the Night" (Bohm); (b) "Just Love Me" (Lyal Phillips).  
Humorous recitation—Mr. W. H. Moscs, "The Trial of Wing Fat."  
Phono fiddle solos—Mr. Verner Lawford, (a) "Swiss Cradle Song" (Scott); (b) "Omaha" (Nicholls).  
Mezzo-soprano solo—Miss Hilda Blechynden, "She Wandered Down the Mountainside" (Clay).  
God Save the King.

4YA DUNEDIN (463 METRES)—SATURDAY, APRIL 7.

- 7.15 p.m.: News session.  
8.0: Town Hall chimes.  
8.1: Relay of orchestral music from the Empire Theatre.  
8.16: Mezzo-soprano solos—Miss Molly Vickers, (a) "Still as the Night"; (b) "Elegy" (Arditti).  
8.23: Pianoforte solo—Miss Muriel Caddie, "Liebestraume No. 2" (Liszt).  
8.27: Baritone solo—Mr. L. M. Cachemaille, "Give a Man a Horse He Can Ride" (Liddle).  
8.31: Flute solo—Mr. Chas. E. Gibbons, "Fra Diavolo" (Auber).  
8.37: Soprano solos—Miss Agnes Guy, (a) "Butterfly Wings" (Phillips); (b) "Kashmiri Song" (Woodford-Finden).  
8.43: Violin solo—Mr. H. Riddle, L.T.C.L., "Berceuse de Jocelyn" (Godard).  
8.49: Orchestral music relayed from the Empire Theatre.  
9.5: Weather forecast.  
9.7: Mezzo-soprano solo—Miss Molly Vickers, "Fair Spring is Returning" (Saint-Saens).  
9.12: Pianoforte solos—Miss Muriel Caddie, (a) "Papillon" (Coleridge-Taylor); (b) "Introduction and Fugato" (Harris).  
9.21: Baritone solos—Mr. L. M. Cachemaille, (a) "Sea Fever" (Ireland); (b) "Invictus" (Huhn).  
9.28: Flute solo—Mr. Chas. E. Gibbons, selection from "Il Trovatore" (Verdi).  
9.34: Violin solos—Mr. H. Riddle, (a) "Shepherds' Dance" (German); (b) "Serenade" (Widor).  
9.43: Soprano solo—Miss Agnes Guy, "Almond Blossoms" (Arundale).  
9.46: Relay of orchestral music from the Empire Theatre.  
10.0: God Save the King.

## Sunday, April 8th

1YA AUCKLAND (333 METRES)—SUNDAY, APRIL 8

- 3 p.m.: Afternoon session—Selected studio items.  
4.0: Literary selection by the Announcer.  
4.30: Close down.  
6.0: Children's song service, conducted by Uncle Leo, assisted by cousins from the Beresford Street Sunday School.  
6.55: Relay of church service from Pitt Street Methodist Church. Preacher, Rev. L. Dalby; musical director, Mr. W. Leather; organist, Mr. W. Bickerton.  
8.30: Relay of organ recital from Auckland Town Hall. Organist, Mr. Maughan Barnett.  
9.30: Close down.

2YA WELLINGTON (420 METRES)—SUNDAY, APRIL 8.

- 9.55 a.m.: Relay of morning service from St. Gerard's Redemptorist Church. Preacher, Rev. Father T. Robinson; organist, Mr. Henry Mount; conductor, Mr. Frank J. Oakes.

(Continued on page 14.)

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

RIGHT IN YOUR OWN HOME.

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

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

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Write us for free details.

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AUCKLAND

### A New Filter Unit.

The Igranic output filter is a new product that should have a ready sale. This output filter employs the hook-up that is most suited to sets employing B eliminators especially, whilst also being best suited to battery operation. The output circuit is at low potential, thus obviating any chance of a shock through contact with the terminals whilst in operation. By courtesy of the International Radio Company, we were able to give the unit a two-days' test, which proved very satisfactory. The price is 25s.

### Transformer "Ratios."

The secondary of every audio transformer should have the largest number of turns practicable if maximum step-up is aimed at. The primary, on the other hand, should be designed to have a suitable impedance for the detector or amplifier to be used with it. The primary impedance is the most important factor to the user, and in the newer models is considerably increased, in some cases to over 100 henries. A low impedance transformer is most suitable to follow a crystal.



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WELLINGTON.

# Mainly about Construction

BY "MEGOHM"

## B" Battery Eliminators for Small Sets

### SECOND INSTALMENT OF SIMPLIFIED CONSTRUCTION

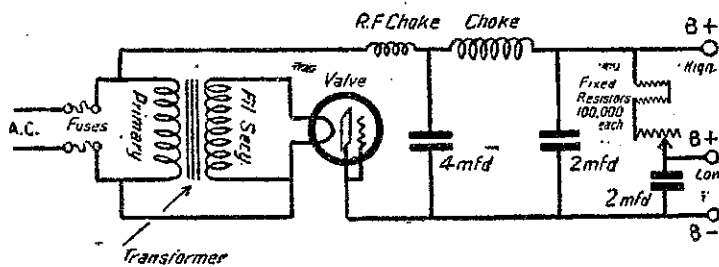
THIS is a further simplified B eliminator to work from alternating current, the main point of simplification being the cutting-out of the necessity for constructing a double-wound transformer. This eliminator is only intended for use on small sets with two or three valves, the fixed condenser capacity having been cut down to the irreducible minimum, chiefly to keep down cost. By the addition of one, two, or more extra condensers of two microfarads each, a larger set could probably be supplied. The writer has made up, and actually used, this eliminator on a two-valve set, and knows that it can be made to function satisfactorily.

In order to save making a transformer with double windings, it is necessary to purchase a toy of bell-ringing step-down transformer with a primary winding, suited to the voltage of the mains, and a low-tension winding, giving a voltage suited to heating the filament of the rectifying valve. AL-

than put too much on the second it might be a better plan in some cases to run both valves at the same plate voltage through the resistances with the means of regulating and finding the best amount. If a resistance has to be placed in the "high" output circuit, it can easily be done, but an extra 2 mfd. condenser must be connected to the "high" terminal and to the negative output, or common wire connecting one side of all the condensers. It will be for each constructor to suit the eliminator to the exact needs of his set. Extra voltages are provided by utilising an extra terminal for each, with fixed or variable resistance, and a 2 mfd. condenser connected, as already mentioned.

#### THE TRANSFORMER.

SMALL transformers can be purchased at an electrician's all ready for connecting to the mains for about 12s. 6d. Some of these have tapped



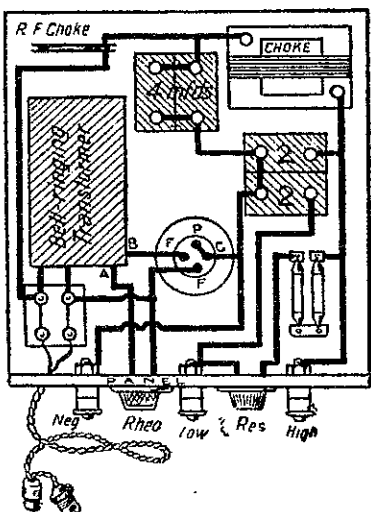
Circuit Diagram of Half-Wave B Eliminator Employing Bell-ringing Transformer

ternating current, in most places 230 volts, is then passed through the valve to be rectified, and afterwards smoothed by a low-frequency choke and condensers of large capacity.

The lay-out and general construction of the panel, baseboard, and cover will be exactly the same as described last week for the double-wound transformer type. The bell-ringing transformer will occupy the position of the transformer, and its primary winding will connect to the fuses as before. The suitable secondary voltage will connect to the rheostat on one side and direct to the valve filament on the other. A connection also has to be made to the filament wiring, in order to draw off the rectified current, which always travels from plate to filament. In case of using an ordinary power valve as rectifier, the plate and grid are both connected together, so that the grid forms an addition to the emission surface of the plate.

#### THE WIRING DIAGRAM.

A PLAN of the baseboard lay-out is given, showing the wiring connections clearly. The inner ends of the fuses connect to the primary winding of the bell transformer, and also branch off, one to the R.F. choke and the other to one of the filament connections. The output of the transformer should be 4 or 6 volts to suit the filament of the rectifying valve, the voltage being regulated by the rheostat, which once set correctly is best left alone. The plate and grid are now connected to the negative output lead. Other connections are as already described last week. The two fixed resistances of 100,000 ohms each as shown will probably be required to cut voltage down for the detector, as there will only be the drop in the valve and two chokes, which will leave a voltage of perhaps 170, and 45 or 50 volts is ample for a detector. In the case of a two-valve amplifier one resistance would probably give a suitable voltage for the first valve, and the full voltage put on the second, though rather



secondaries giving perhaps three voltages. Three volts would suit the Philips 373 or Mullard DV10, or for a UX171, PM250, or PM6, a six-volt tap would be suitable. For ordinary valves, the PM4 or PM254 are suitable, requiring 8.7 volts on the filament.

#### AN IMPORTANT POINT.

IT is important to note that when using an eliminator of this type without a double-wound transformer, no direct earth connection can be used on the set. The way to get over this is to insert a good-quality fixed condenser of at least 1 m.f.d. capacity in the earth lead. This makes no diminution in volume. The best condenser for this purpose is one tested at 800 volts and guaranteed for operation at 500 volts. The condensers above mentioned cost about 11s. 6d. each in 1 mfd. and 13s. 6d. for 2 mfd. On no account must constructors omit to provide the tinfoil fuses as shown in the plan.

## AERIALS — INTENTIONAL & OTHERWISE

The observant experimenter will often notice quite remarkable effects due to the proximity of an aerial not actually connected to the receiver. At one time it was usual to boast that one's set would receive certain stations without an aerial, and possibly without even an earth.

Such a test carried out under home conditions probably involved disconnecting the aerial wire from the set and leaving it lying on the table near by, or at the most disconnecting the wire from the inside end of the lead-in terminal. In both these cases more careful experiments will show that the aerial is still influencing reception, and it has even been noticed that an aerial is not quite inert if connected to an earth separate from that used by the set.

Receivers are frequently tested nowadays to ensure that they will not receive even a powerful local station without an aerial. This serves as a test of the efficiency of screening boxes. To be quite fair to the set, however, it is important that there should be no aerial, either of the frame or open type, near by.

Other sources of unwanted reception are to be found in long H.T. and loud-speaker leads, particularly the former if a mains unit situated at some distance from the set is being used. The blocking condenser within the set between each H.T. tapping and earth should not be omitted even though there is a full set of condensers in the eliminator; and again, if long loud-speaker leads are to be used, it is desirable that an output transformer, the core and secondary of which are earthed, should be employed in the plate circuit of the last stage in the set.

The use of a frame aerial will endow most receivers with a marked degree of selectivity, which is in no small degree due to the directional property of the frame; but here, again, care should be taken to ensure that there is not a lead-in from an open aerial close by, or persistent jamming by the local station may be experienced.

It is a good plan to mount coils with their axes vertical wherever possible, as, if otherwise placed, they may be acting as miniature frame aerials within the set. Certain special arrangements of windings, such as the toroids and the binocular coils, tend to prevent trouble from this source.

## TWO-VOLT VALVES

When using two-volt valves throughout in a multi-stage receiver (with four or more valves) it is often advisable to omit all filament rheostats unless the design which is being followed specially calls for them—possibly as a volume control by dimming the H.F. amplifier. The reason for this is that a certain voltage is dropped in battery leads, both external and internal, and with the small surplus at our disposal it is quite possible that the residual resistance in a rheostat at minimum setting, in conjunction with the extra lengths of wire used in connecting it, may be sufficient to prevent the application of the full rated filament voltage.

This advice applies with greatest force when one or more of the valves consume a comparatively high current. It will be realised that, to obtain a wattage approximating to that consumed by six-volt valves, the tendency is to increase the heating current of those with two-volt filaments.

## Why Detuning is Bad Control

ON different occasions the practice of detuning has been condemned in this column as being very liable to produce distortion. It is impossible to lay down any exact rule in this matter that may be applied to all receivers, but listeners who are troubled with distortion are recommended to give the matter careful attention, and when distortion occurs in reception, a very careful attempt should be made to reduce it by fine tuning on the dials.

The dial position giving maximum signals is called the "resonant point," but when the signals are strong and spread out slightly, it is sometimes difficult to determine very exactly when the resonant point has been reached, and yet the slightest deviation on either side may tend to introduce distortion, as we shall see.

The wave sent out by the transmitter is several kilocycles wide, the centre portion carrying the low notes and the two outer fringes the high notes and harmonics.

Figure 1 shows the diagram of the resonance peak of a selective receiver. If we tune in to the resonant point correctly, the receiver bands will fall as the shaded portion A, which is sub-

rest, there is discrimination between low and high notes, which inevitably results in distortion.

On still further detuning the circuit, so that the peak of the curve is so completely removed from the frequency-band of the transmitter that the whole of the band falls on the skirt of the curve, as at D in Fig. 2, the distortion disappears again, for once again all parts of the band receive equal treatment from the tuned circuit.

#### DAMPED CIRCUITS.

IT follows, then, that if it is desired to detune a receiver, and at the same time to avoid distortion, each tuned circuit must be adjusted either exactly in resonance with the station being received, or well away from the resonant point. The only exception that may safely be made is where one of the circuits, owing to damping either by the aerial, or by a grid detector, tunes flatly, so that it has a resonant curve of the type shown in Fig. 3. It will at once be seen from the figure that in such circumstances, no matter what position the frequency band may have with respect to the curve, no appreciable distortion can be introduced.

It must not be imagined that the distortion described here is purely theoretical and academic; it can be heard only too plainly in the loud-speaker whenever a really low-resistance circuit is tuned slowly through the wave-length of the local station, the distortion corresponding to B being particularly well marked. This type of distortion is heard at its worst when receiving on a frame aerial with a nearly oscillating detector, when the most minutely accurate tuning is necessary to centre the transmission on the very sharp peak of the resonance curve.

#### USE OF H.F. VALVE RHEOSTAT.

COMPLETE detuning is particularly useful as a volume control when receiving the local station on a modern neutralised receiver, in which the chief volume control is by the filament rheostat of the high-frequency valve. It often happens with such a set that the local station continues steadily to overload the output valve until the filament is turned right out, when dead silence supervenes. If the aerial circuit is now detuned at least far enough to ensure freedom from distortion, and the filament of the H.F. valve relighted, a position of the rheostat will be found at which the local station is received at convenient volume.

Detuning, then, cannot be used for fine control of volume, except when one circuit of the receiver is of high resistance, but when there is already a volume control of insufficient range, it can be made to provide a very valuable auxiliary control.

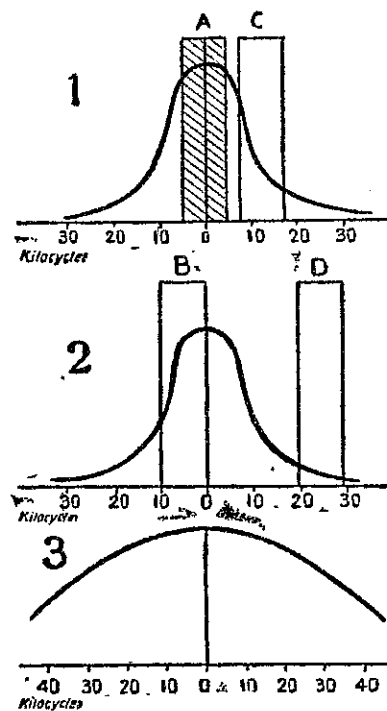
If the aerial tuning of the set is accomplished by a loose coupling, and there is no earth connection to any other part of the circuit, then the condenser in the earth lead may be dispensed with, as there will then be no direct path to earth for the B current.

In the case of the two-valve amplifier recently described in this column, if constructed with circuit as shown, no condenser would be required in the earth lead, but the precaution would have to be taken if not plugging in for crystal reception only before turning off the B supply, otherwise a heavy B current would be drawn through the last valve. To obviate any chance of this the connection between crystal socket (1) and centre phone terminal or clip (4) could be dispensed with.

In every case care should be taken not to come into direct contact with the aerial-earth circuit whilst making adjustments.

It is on account of these limitations of the direct method that, after all, the double-wound transformer type appears to be worth the extra trouble involved.

(Continued on Page 13.)



stantially all on the resonance peak, so that the exact centre and the sides of the band are both correctly tuned in, so that both the high and low notes will receive equal treatment.

#### Slightest Detuning May Cause Distortion.

On slight detuning, the peak of the curve is moved with reference to the transmitter, so that the frequency band falls on the curve in some such way as suggested at B in Fig. 2. Here it will be seen that one-half of the band is received at full strength, while the other half is cut down very considerably by being situated on the steeply falling side of the peak, so that while half of the high notes, and practically all of the low notes, are heard well, the remaining half of the high notes is cut out more or less completely.

On further detuning, the centre of the band falls at the beginning of the lower part or "skirt" of the curve, as shown at C in Fig. 1. In this case one-half of the high notes is accentuated, while the low notes and the remainder of the high notes are badly heard.

In either of these two cases, in which the tuned circuit picks out part of the total wave at the expense of the

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

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

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

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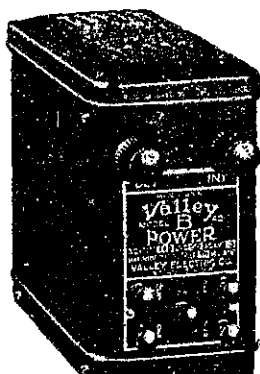
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# Useful Wave Trap to Cut Out Local Stations

(Reprinted from Journal of Radio Engineers' Institute.)

**P**EOPLE living very near to a powerful broadcasting station may find that this station comes in loudly enough to interfere with reception of other stations, even when the receiving set is most carefully tuned to the station that they want to hear. Particularly is this the case in large cities like New York (which city has no fewer than twenty-two broadcasting stations, operating on powers up to 5000 watts, and in general with many hundreds of thousands of people living within a few miles of each of these stations). With a receiver having poor selectivity, it may be that the nearest or most powerful station will be heard no matter how the set is tuned, but with a receiver of very great selectivity, only perhaps two or three stations of very nearly the same wave-length as the local station will be interfered with. Thus the seriousness of the interference depends upon the selectivity of the receiver, the distance from the interfering station, and the power of the latter. In the following the methods of eliminating or greatly reducing such interference at minimum expense and trouble are given.

## Successful Elimination.

"In the great majority of cases the interference can be eliminated by the use of what is called a series wave trap.

"The series wave trap has two binding posts, one of which is connected to the antenna post of the receiver, and the other is connected with the antenna. (The antenna is thus disconnected from the set and the signals have to go through the trap to reach the set. This is why it is called a 'series trap'.') In addition to the wave trap a .0005 microfarad fixed condenser should be connected across the antenna and ground binding posts of the receiving set.

"The series trap offers a very great obstruction to the interfering signal, and thus reduces the amount that gets through the set, but offers comparatively little obstruction to the desired signals.

## Construction of a Series Wave Trap.

"A satisfactory series trap can be made of the following parts:—One .0005 microfarad variable condenser, one cylindrical cardboard cover off an

old dry cell (about 2½ inches in diameter), a spool of No. 24 double cotton-covered wire, a small board to mount the parts on, two binding posts of Fahnestock clips for connection to antenna and to receiving set. (See Figure 2.) Wind a coil with the wire on the cardboard tube, with the turns

close together, about sixty turns. Twist a few loops in the wire for connections at several points, say, turns number 5, 10, 18, and 30, and also at the last turn.

"Remove the cotton covering from the wire on the coil at these points, so that connection can be made to any one of them by means of the flexible piece of wire marked 'A.' Such places, where connection may be made to certain turns on the coil, are called 'taps.'

"Mount the variable condenser and coil on a wooden board, provided with two binding posts, as shown in Figure 2. Connect the first and last turns of the coil to the variable condenser, as shown in the figure. Then connect one of the binding posts on the board to one of the binding posts on the variable condenser, as shown in the figure. To the other binding post connect a piece of flexible wire (the No. 24 cotton-covered wire can be used, but a piece of stranded flexible insulated wire would be better), and remove the insulation from the free end, so that it may be connected to one of the 'taps' which were made on the coil, as will be described in the second paragraph below.

## Operation.

"Remove the antenna wire from the 'antenna' binding post on your receiving set, and connect it to the right-hand binding post on the wave trap, and connect the left-hand binding post on the wave trap to the binding post on your receiver, to which the antenna wire previously went (see the figure). Next, connect the .0005 microfarad fixed condenser between the antenna and ground binding posts of the receiving set.

"Now twist the 'flexible' wire connection on the wave trap around the 'tap' at the thirtieth turn, being sure to make a good connection. Then start up the receiving set, set the wave trap condenser pointer at zero, and tune for some desired station. This may come in at a different place on the receiver dials from those found previously.

ly. If the interfering station is now heard along with the desired one, turn the knob of the wave trap condenser very slowly until the interference disappears.

"If the desired station goes out along with the interfering one, change the flexible connection on the wave trap to the eighteenth turn, and repeat the operation. If the same thing still occurs, try ten turns and five turns in succession. In each case, before changing the tap connection, try retuning or readjusting your receiver, to see whether or not the desired station can be brought in, and also readjusting the wave trap slightly to keep out the interfering signal. A certain amount of back and forth adjustment between the receiver and wave trap may be necessary.

"If with the tap connection on the thirtieth turn the interfering signal can still be heard under the desired one, when the wave trap is tuned to give its maximum reduction of interference, change the tap connection to the sixteenth turn, and repeat the operation described above.

for your particular receiving set and antenna.

"If the trap does not work when first made and connected, inspect it carefully to see that it was made in accordance with the foregoing instructions. Traps such as the one described have actually been made, and have been used successfully with many hundreds of receivers, of the widest variety of manufacture.

## Loop Sets.

"Less interference will be found usually when using loop sets, because the loop is more selective than an antenna. Also the loop can be turned into a position where the interference is very much reduced. And finally, a wave trap can easily be made that will cause a great decrease in interference, as follows:—

Wind about twenty turns of double-cotton-covered number 24 wire in a bunch around a regular size 45-volt 'B' battery (which is about 7 inches by 8 inches). Slip the coil off, and tie or tape it together, to keep from falling apart. Connect it to a variable condenser. Then hold the coil near the loop, and adjust condenser to make the interference as little as possible."

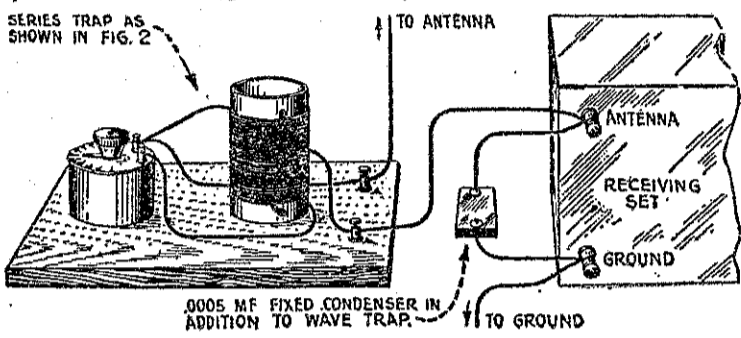


Fig. 1.

"Fortunately, in most cases the interference may be reduced to a point where it is unobjectionable by the use of one or more wave traps. These are simple devices that can be bought fairly cheaply, and can be made at home very easily for almost no cost beyond that of a variable condenser.

old dry cell (about 2½ inches in diameter), a spool of No. 24 double cotton-covered wire, a small board to mount the parts on, two binding posts of Fahnestock clips for connection to antenna and to receiving set. (See Figure 2.) Wind a coil with the wire on the cardboard tube, with the turns

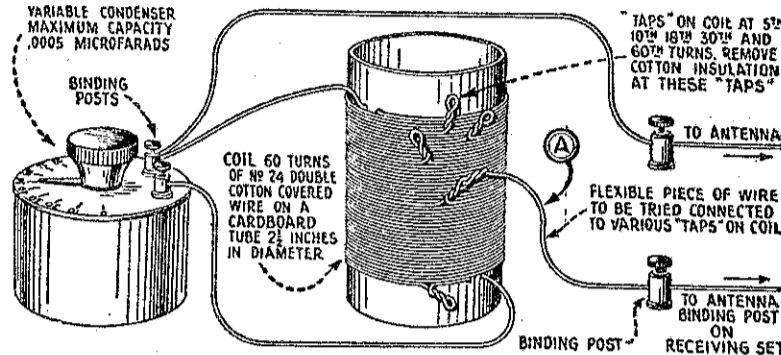


Fig. 2.

"A certain amount of experimenting will be necessary, in order to learn the effect of the wave trap on the receiver adjustments, and in order to learn how to adjust the wave trap as well as what tap on the coil is best

battery (which is about 7 inches by 8 inches). Slip the coil off, and tie or tape it together, to keep from falling apart. Connect it to a variable condenser. Then hold the coil near the loop, and adjust condenser to make the interference as little as possible."

## Construction Continued

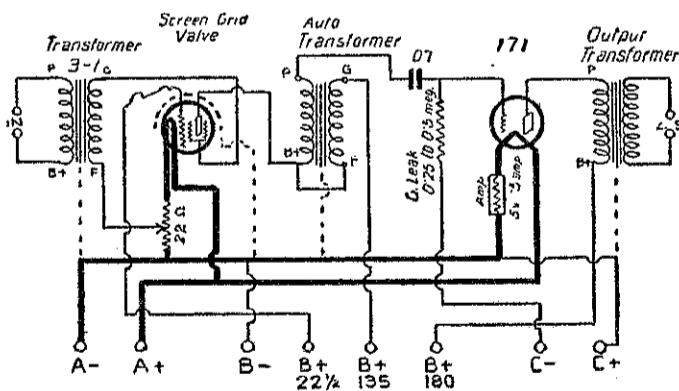
### The New Screen-Grid Valve as Audio Amplifier

THE March number of "Radio News" gives an audio amplifier employing the UX222 valve in the first stage and a 171 type valve in the second, transformer coupling being employed. Quadruple amplification is claimed over results obtained with a 201A in the first stage, or 300 times against 216. The innovation is particularly suited for DX work, of which we get such an amount in New Zealand, but, on the other hand, if properly handled, will give excellent results on strong signals. This latter is effected by the use of a potentiometer to cut down signal strength to an

Considerable experiment and trial in the laboratory has produced a satisfactory unit, but the descriptive article impresses upon constructors the importance of adhering to specifications as closely as possible.

The schematic diagram is given here as being of particular interest at the present time.

The potentiometer above referred to is made from a 30-ohm rheostat, and in order to cut down the total resistance to 22 ohms, which will give the filament its requisite 3 volts, a section of the resistance (nearly one-third) is shorted by sweating solder across the



amount that can be carried by the last valve.

The chief difference between this and the usual audio circuit consists in the use of the second transformer as an auto-transformer, by connecting the primary and secondary in series. The only transformer suited to this purpose is the Patent, which has a high secondary inductance, about 600 henries, with a high value of current through it. No further particulars are given of this transformer. The first transformer is 3 to 1 ratio, and the final output is through an output transformer of the usual 1 to 1 ratio.

Partial shielding of the valve is an absolute necessity to prevent any tendency of the valve to howl, and to prevent microphonic action from the loudspeaker. The shielding is effected by placing an inverted "beverage shaker," or metal tumbler, over the valve.

wires, or by any other convenient method, and both ends of the resistance are brought out to terminal screws. The arm gives a bias of ½ volt on the screen-grid. Though the filament voltage will be slightly below the rated value, it makes for longer life without decreasing amplifying efficiency.

Little advantage would be gained by using the screen-grid valve unless the last valve was one equal to carrying very large volume, and this the 171 will do.

## Browning-Drake Results.

Numerous constructors are reporting success with the Browning-Drake four-valve constructed according to the recently-published specifications. Several who have built it to replace three-coil circuits are pleased with the great improvement in volume, selectivity, and tone.

## GRID BIAS

A POINT which is not always realised when considering the setting of grid bias for the various valves within a receiver is that one to three dry cells will provide ample bias for the first audio stage.

Assuming that sufficient demands are being made on the set to warrant biasing the grid of the last valve to 9 volts, the peak value of the A.C. signal voltage swing will be 18 volts.

Since we have a right to expect at least 25 times voltage amplification from any modern stage of audio-frequency amplification, be it resistance coupled or transformer coupled, this 18 volts swing on the grid of the power valve would be produced by 18/25, or, say, 0.7 volt on the grid of the preceding valve.

To accommodate this 0.7 volt swing a bias of only 0.35 volt is necessary, always providing that the particular valve employed does not pass grid current until the grid bias has been raised to a potential positive in respect to the negative end of the filament.

Reversing this argument, the grid

## QUERIES BY CORRESPONDENCE.

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

bias produced by a single cell, i.e., 1.5 volts, is only fully employed when a voltage swing of 90 is deemed desirable on the grid of the output stage.

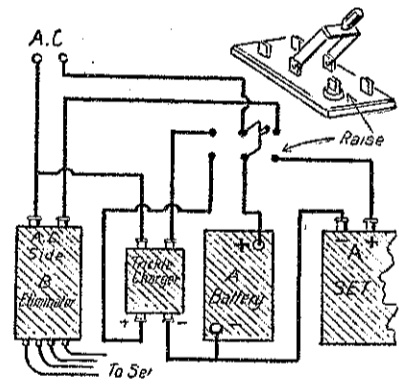
The small bias normally required could quite well be obtained in many cases by inserting resistance (fixed or variable) in the negative lead of the valve filament circuit, and connecting the grid to negative L.T.

Whether this method will work depends upon the characteristics of the valve filament. For instance, many filaments rated at 2 volts will function well at 1.6 volts, leaving 0.4 volt available for biasing, resistance drop in battery leads, etc. With four or six-volt a large surplus voltage is available.

When only just sufficient bias is used the maximum performance of the valve will be obtained at an appreciably lower H.T. voltage than would otherwise be necessary, thus economising in batteries.

## CONTROLLING "B" ELIMINATOR AND "A" BATTERY TRICKLE-CHARGER

IT is quite easy to control a receiver with B eliminator and A battery trickle-charger with a single double-pole double-throw switch, so that in one position the receiver and eliminator are both cut out from battery and mains, and the trickle-charger is switched on to charge the A battery, and in the other position the trickle-charger is cut out, power connected to the eliminator.



tor, and the receiver filaments switched on, provided, of course, that low tension controls on the receiver are left in position for reception.

In order that the valve filaments may switch on before and off after the eliminator, it is only necessary to make

the A battery contact on the switch higher than the opposite one of the pair.

## IMPEDANCE.

IMPEDANCE is influenced by frequency, as is reactance, and concerns direct as well as alternating currents, as does resistance. Like resistance, it is measured in ohms, the number of ohms being the number of volts required per ampere of current.

For example, the resistance of a pair of headphones is very often 4000 ohms. The impedance of such a pair to a current at a frequency of 800 cycles per second may be about 30,000 ohms, whereas to a current at 400 cycles, it would be a little more than half that amount. We may summarise these results as follows:

Resistance is the opposition offered flow of a current, and is a property of the circuit or apparatus concerned, being independent of the nature or frequency of the current.

Reactance is the opposition offered by an inductance or capacity to an alternating current. Only alternating or changing currents encounter reactance, the magnitude of which depends upon the frequency of the current.

Impedance is the total opposition offered by a circuit, and is made up of resistance and reactance. Where direct current is concerned, the impedance is the same as the resistance, for there is no reactance.

## A New Accumulator.

VERY shortly will be described an easy method of constructing a B accumulator of good capacity, capable of being charged with the A battery charger recently described, thus obviating the necessity for having two chargers. A method has already been described for an easy system of charging B accumulators "in parallel," but the forthcoming idea is much simpler to construct, and will, therefore, appeal to those whose experience has so far been limited, or who cannot spare the time for more elaborate ideas.

## Vibrating Chargers.

A FEW old-fashioned listeners are still utilising battery chargers of the vibrating type, and most of them appear to be particular not to work them during broadcast hours. But the valve rectifier is a much superior and more trustworthy instrument, as it will

not let the battery down. A vibrator, unless provided with complicated safety gear, will short the whole battery charge if a stoppage of the main's current should happen, if only for a moment. This type of rectifier may cause considerable interference with neighbouring receivers, but this trouble can be reduced, if not cured, by placing a 1 mfd. condenser across the vibrator gap.

## New Type of Cone Speaker.

A NEW type of cone speaker has been evolved in which the diaphragms are of linen, stretched on two 2-foot square frames eight inches apart. The centres of the linen squares are drawn together by a bolt which is actuated by the driving unit. Volume with quality and a frequency response from 30 to 8000 cycles are said to be the result.



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# Programmes Continued

(Continued from page 11.)

Organ solo, "Pensee" (Dubois).  
 "Introitus" (arr. Tozer).  
 "Messe Solenne Des Pagnes" (Gounod).  
 "Kyrie Eleison."  
 "Gloria in Excelsis."  
 Graduate, "Haec Dies" (Webbe).  
 Sequentia, "Victimae Paschali" (Webbe).  
 Sermon, Rev. Father T. Robinson.  
 "Credo."  
 Offertory, "Terra Tremuit" (Hammerell).  
 "Sanctus."  
 "Benedictus."  
 "Agnus Dei."  
 Organ solo, "Alleluia" (Rockwell).

11.30: Close down.  
 6 p.m.: Children's service, conducted by Uncle Ernest.  
 6.55: Relay of evening Easter Day service from St. Gerard's Redemptorist Church. Preacher, Rev. Father W. Gill; organist, Mr. Henry Mount; choirmaster, Mr. Frank J. Oakes.  
 Organ solo, "Exultet" (Wielandt).  
 Rosary, with choral responses.  
 Antiphon, "Regina Coeli" (Witska).  
 Sermon, Rev. Father W. Gill.  
 Motets—"Haec Dies" (Webbe); "Sweet Sacrament Divine" (Anon.); "Terra Tremuit" (Hammerell).  
 Organ solo, "Prayer" (Salome).  
 Benediction.  
 Motets—"O Salutaris Hostia" (Elgar); "Victimae Paschali" (Webbe); "Tantum Ergo" (C'Abbe Lambillotte); "Divine Praises" (Oakes); "Adoremus" (Allegri); "Te Deum" (C'Abbe Lambillotte).  
 Organ solo, "Alleluia" (Novello).  
 After the church service the following concert programme will be broadcast from the studio:—  
 8.30 (approx.): Soprano solo—Miss Greta Stark, "I Know that My Redeemer Liveth" (Handel).  
 Vocal duet (with quartet)—Miss Rita Arnold, Mr. Frank Skinner, and Etude Quartet, "He Has Called Her" (Bath).  
 Instrumental quartet—Symons-Ellwood String Quartet, "Minuetto and Finale" from "Flat Quartet" (Mozart).  
 Baritone solo—Mr. Ray Kemp, "Fear Not Yet, O Israel" (Dudley Buck).  
 Contralto solo—Miss Rita Arnold, "Hosanna" (Grant).  
 Instrumental quartet—Symons-Ellwood String Quartet, "Adagio from F Quartet" (Haydn).  
 Tenor solo—Mr. Frank Skinner, recitative and aria from "The Messiah," (a) "He Was Cut Off from the Land of the Living"; (b) "But Thou Didst Not Leave" (Handel).  
 Instrumental quartet—Symons-Ellwood String Quartet, "Scherzo" (Cherubini).  
 Vocal quartet—Etude Quartet, "Lift Your Glad Voices" (Hofden).  
 Close down.

## 3YA CHRISTCHURCH (306 METRES)—SUNDAY, APRIL 8.

5.30 p.m.: Children's song service, by Uncle Sam, assisted by Master Ewart Douglas, in vocal solos, "The Legend" and "There is a Green Hill Far Away," also the children of South New Brighton Methodist Sunday School, under the direction of Miss Hulme.  
 6.30: Relay of Easteride evening service from St. Saviour's Church of England, Sydenham. Preacher, Rev. Canon C. G. Mutter; organist and choirmaster, Mr. C. H. Hoskin.  
 8.0: After service the following sacred concert will be given from 3YA Studio:  
 Vocal sacred quartet—Miss Anita Graham, Mrs. D. W. Stallard, Messrs. W. Bradshaw, and W. H. Inkster, "God So Loved the World" (Stainer).  
 8.4: Contralto solo—Mrs. D. W. Stallard, "Eastertide" (Liddle).  
 8.8: Cornet solo—Mr. R. Ohlson, "Concertante Eidelweiss."  
 8.13: Tenor solo—Mr. W. Bradshaw, "Where'er You Walk" (Schubert).  
 8.18: Mezzo-soprano solo—Miss Anita Graham, "Ave Maria" (Gounod).  
 8.22: Pianoforte solo—Miss Aileen Warren, "Elevation" (Chaminade).  
 8.27: Bass solo—Mr. W. H. Inkster, with choral refrain, "The Hymns of the Old Church Choir" (Solman).  
 8.31: Vocal quartet—Miss Anita Graham, Mrs. D. W. Stallard, Messrs. W. Bradshaw and W. H. Inkster, "O, Come All Ye Faithful."  
 8.36: Cornet solo—Mr. R. Ohlson, "Nordische Fantasia."  
 8.41: Contralto solo—Mrs. D. W. Stallard, "O, Divine Redeemer" (Gounod).  
 8.46: Tenor solo—Mr. W. Bradshaw, "The Holy City" (Adams).  
 8.50: Pianoforte solo—Miss Aileen Warren, "Far Off Bells and the Clock" (Somervell).  
 8.55: Bass solo—Mr. W. H. Inkster, "Invictus" (Huhn).  
 8.59: Mezzo-soprano solo—Miss Anita Graham, "The Lord Is My Light" (Alfisen).  
 God Save the King.

## 4YA DUNEDIN (463 METRES)—SUNDAY, APRIL 8.

5.45 p.m.: Children's song service—Big Brother Bill.  
 6.30: Relay of Easter service from the St. Andrew Street Church of Christ. Preacher, Pastor W. D. More; choirmaster, Mr. W. Hickey.  
 8.0: Studio concert.  
 9.0: Close down.

# Radio Matters In Auckland

(Continued from Page 3)

he denied. But they were determined that their voice should be heard. "We do not charge without allowing a defence," declared Mr. Tiark. "We come out on the open platform, and our president invites anyone to defend or criticise as he thinks fit."

Doubtless some of you have seen this before, said Mr. Tiark, as he brandished a copy of the "Radio Record" before the audience. "I didn't buy it—I borrowed it," he declared, at which evidence of nationality the audience cheered loudly.

Next Mr. Tiark waved a clipping of Mr. Goodfellow's interview, as given in the Auckland "Star." "The best part of that," said Mr. Tiark, "is the photograph. I don't think much of the rest of it," to demonstrate which he read a good deal of it. "But we do not discredit," said the speaker, "neither are we here to go into a long controversy as to the whys and wherefores of changes of staff. We have no desire whatever to dictate. All we wish is that they shall deliver the goods."

Traversing Mr. Goodfellow's statement that, in travelling through the main centres of New Zealand, he had found general satisfaction with the service given by the Radio Broadcasting Company, Mr. Tiark quoted North Taranaki and Rotorua as places that apparently had been missed. "Why can't Mr. Goodfellow and Mr. Harris come to our meeting?" Mr. Tiark plaintively asked. "We can only come to the conclusion that they are not interested in our wishes or ours. Nevertheless we will peg away, and some day perhaps the Government will realise what a horrible mistake they made when they placed the monopoly in such hands."

Mr. Tiark now reverted to the "Radio Record," and proceeded to devote special attention to the letter, published in our issue of March 16 under the heading of "Manufacturing Discontent," wherein was outlined the "hobby" chosen by a gentleman with a "pull" in relation to pin-pricking the Broadcasting Company. Mr. Tiark read the letter, but, said he, "I won't read you the rest of the article—there is no necessity." The letter, he announced, had not been addressed to the "Radio Record," and he invited the person to whom it had been addressed to say how it had got into the paper. Mr. Tiark concluded by dramatically asking the writer of the letter to confirm this statement.

The writer, whose name in deference to his wishes we do not give, nervously mounted the platform, and explained that he had written the letter to an officer of the company in a spirit of "kidding," and with a view to giving him in the latter part some idea of how things were going. He had written in a jocular fashion—"like Alphonso, just jossing him." Some of the words as published in the "Record" had been put in and the context altered somewhat. He did not wish to blame the man to whom he had written and thought there had been some mistake.

Mr. Tiark's motion was duly seconded, after which a member of the audience suggested that an amendment should be added, notifying the Radio Broadcasting Company that, failing the provision of better programmes, they would dismantle their sets at the end of three months.

After some further discussion a more mature member of the audience advised the gentleman responsible for this idea not to be silly. He would not like to see them make themselves ridiculous by passing any such proposition.

## A COMPARISON OF TALENT.

The Rev. Mr. Coates said he had a little crystal set with which he would not part for anything in the world. He did not wish to get anything beyond IYA, and as far as he was concerned he regarded the fare offered as being most excellent.

## THEY HAD TO REMEMBER THAT AUCKLAND DID NOT PROVIDE THE RANGE OF ARTISTIC AND MUSICAL CULTURE THAT THE SOUTHERN CITIES DID.

He had recently been in Dunedin and Christchurch, and while there had been entertained at friends' houses with a range of talent superior, he thought, to much that was put over the air from IYA. This showed, in his opinion, that the southern cities, due to what factor he did not definitely know, certainly had a wider range of cultural attainment than had Auckland, where the claims of the open-air life perhaps operated as a barrier. In his opinion it was plain that IYA had procured the very best talent available in the City of Auckland, and the company could not be blamed if the city was not able to provide the full range of talent desired by listeners. When a variety of talent was available, he had no doubt that the company would engage it. He was very thankful that they did have a very excellent trio that gave them such beautiful instrumental music. He was thankful, also, to Mr. Montague and others for their eloquent items. The talent employed was the best available so far as Auckland was concerned.

He thought the great object of an organisation such as the Listeners' League was to offer some constructive criticism, and to make useful suggestion; but, in making any criticism, they had to make them with an inner knowledge of the local conditions.

If anyone knew of artists who ought to go on the air, let them suggest them; he thought the management would be very glad of any such suggestion. Their programmes, generally speaking, were excellent. He personally wished they might get more of the gramophone records, they were now so very fine and so excellently produced—very much

better in point of fact than some of the local talent. If they could suggest better performers, he would be glad, but he thought it was very unfair to be always dunning the company over the programmes. He took it that the programmes were good, and that they would be better if the city could produce the goods. They could not get visiting artists because they would not go on the air, and much of the music of some of the lighter pieces was copyrighted by J. C. Williamson, etc. The copyright position affected the programmes more than listeners realised.

## QUESTION OF TRANSMISSION.

Mr. R. P. Haycock, one of the earliest listeners in the Waikato district, said that he did not think there was very much to worry about in regard to the quality of the programmes, but this was not the case with transmission. Formerly he had been able to get IYA better than he could now get 2YA.

A little cross talk occurred as to whether it was necessary for applications made to perform at IYA to be sent to Christchurch. The assurance was given that it was not, but that after programmes had been arranged by the local station and changes were found necessary for copyright reasons by head office, advices were sent out from there.

## THE CHILDREN'S SESSION.

Mr. G. McB. Salt advanced that the league had sent forward many constructive suggestions to Christchurch, but the replies were generally brief. Mr. Salt read a brief acknowledgment from the company to resolutions forwarded by the league in connection with the children's hour.

But Mr. Salt did not explain that, following on that brief acknowledgment, Mrs. Hall, organiser of the children's sessions, had interviewed him and another prominent member of the league's executive and had offered them the positions of "uncles" at IYA in order to apply their ideas for improvement, etc. Mr. Salt had first accepted the position but on it being announced, withdrew.—Ed.]

Mr. Salt proceeded to say they were making no attempt whatever to decry the individual performers at IYA. Their complaint was that the programmes lacked variety, and in this connection he cited the "typical" programme broadcast from IYA as a sample of variety in that only one artist appeared twice on the programme. Now they had the same performers week by week. They would also like variety in the form of novelties, burlesques, etc. Hours of service should also be lengthened, particularly on Sunday evenings. In a small way they should be able to provide even better service and longer hours than 3LO.

Mr. Tiark's motion was carried.

## THE GOVERNMENT CONDEMNED.

Mr. Knowles moved regretting that the Government had not as yet taken steps to set up an Advisory Board and had made no financial statement to listeners. Mr. Harris, in the "Radio Record," had said that the Broadcasting Company was not a private company formed to exploit the public, but a public company formed under Government regulation to administer a public utility in the interests of the community. Well, he would like to know one that was more private! Mr. McNamara had said that he could not see why listeners should want to see the accounts. He said the Government auditor had been through the accounts and was willing to give a certificate. THAT DID NOT SATISFY THE LISTENERS, WHO WANTED TO SATISFY THEIR CURIOSITY IN REGARD TO SALARIES, RENTS, FEES, ETC. Some of the things they would like to know were: (1) the cost of operating; (2) the money spent on programmes; (3) the amount of reserves; (4) the proportion of license fees drawn from Auckland that were spent in Auckland.

Mr. Knowles's motion was duly seconded and carried.

## "THE RADIO RECORD."

Then Mr. Jacob solemnly moved the league's third prepared resolution: "That this meeting is of the opinion that the 'Radio Record,' from its failure to maintain an unbiased attitude with regard to broadcasting is prejudicial to the interests of broadcasting in New Zealand."

Then we sat up, expecting to hear something desperate regarding our misdeeds, but were sadly disappointed. All that Mr. Jacob could produce was the fact that we had excised a few words from a communication sent forward by the league for our second issue, and in recent weeks had published an article repudiating some false and vicious criticism from an Auckland paper, and had published the letter to which Mr. Tiark had so melodramatically taken exception. This was the evidence which, in Mr. Jacob's opinion, justified him in asking an intelligent audience to adopt his view as to the "prejudice" we were exercising on New Zealand broadcasting!

On the chairman asking for a second order, some little delay occurred in eliciting any response, but at last a gentleman near the door seconded the resolution, on which we felt justified in mounting the platform, and, somewhat to the surprise of the executive, introducing ourselves to the chairman, with the request that we be allowed to speak to the audience. This being granted, and a graceful welcome accorded by the audience, we pleaded "guilty" to the first indictment, that we had excised ten or twelve words from the league's original literary effusion.

Our reason was, first, that the words excised contained an untrue statement, and secondly, were phrased in offensive language.

Since that time another communication from the secretary, Mr. Salt, in connection with the proposed Anglican station, had been published in full as being quite in order. Further, hospitality to the league's announcement of the meeting had been courteously given by us in our issue of March 16. This announcement stated that the subjects for discussion were (1) the year's operations, and (2) the future of broadcasting.

That statement made no mention of the "Radio Record" being down for discussion, and further, we had not been invited to attend to defend ourselves in any such discussion. This, surely, was in strong contrast with Mr. Tiark's declaration that they did not make any charges without giving the opportunity for defence.

Coming to the letter of "the gentleman with a hobby," we commented on the fact that Mr. Tiark had read that letter, but had not read our comments upon it, which left the audience with a very incomplete view of the matter. We therefore read our comment upon this "pitiable hobby." The writer of the letter had declared that the letter as published had had words inserted and its context altered. This was emphatically untrue, as we had in our pocket a certified copy of the letter, which could be shown to the writer to prove the point. [This was subsequently done, to the satisfaction of the writer, on which he withdrew the offensive term he had used in regard to its publication.] We did not withdraw one iota from our view that we were justified in publishing that letter, as ownership rested in the recipient and not in the writer. The original recipient was an official of the Broadcasting Company, and on receiving this advice that it was proposed to adopt the hobby of pin-pricking broadcasting, and apply destructive criticism through the Press (with which the writer had "a pull"), and on seeing that course in actual operation through a steady stream of biased and warped propaganda from Auckland regarding broadcasting, that official, in honour bound, and in loyalty to his employers, the Broadcasting Company, had handed it to the management, so that the management could take steps to protect itself and listeners from this subversive propaganda.

We cited instances of the biased matter which had been appearing in the Auckland Press, notably in connection with the change in the directorship of IYA, Edison Night, and contemptible comments thereupon, ridicule upon the American appreciation of the New Zealand broadcasting system, and, finally, personal attacks upon Mr. Harris. This matter had been appearing, not only in the Auckland Press, but had been telegraphed throughout the rest of the country, and was calculated to give listeners in general a wholly erroneous impression of the position, and so damage broadcasting in general. We pointed out to the writer of the letter that, while such matter as he had written might be mentioned face to face in a "joshing" spirit and be taken at face value, this did not apply when put into black and white and read at a distance of hundreds of miles in face of the apparent execution of the plan outlined. The writer himself, if in a position where he was responsible for the conduct, say, of a musical society dependent upon public appreciation, would expect any member of that society who received a letter outlining a method of attack upon it, to hand same to him as leader for defensive action. This was all that had been done in connection with the letter sent. Its publication was absolutely justifiable, and we would do the very same thing again.

A considerable number of questions were asked by various members of the audience in the course of quite a bright little half-hour, at the end of which the set resolutions having been duly carried, the meeting terminated with "everybody happy."

## GENERAL MANAGER'S REPLY

## COMPREHENSIVE REVIEW.

SUBSEQUENT to the meeting, a reply to the points raised was made by Mr. A. R. Harris, general manager of the company.

Mr. Harris stated that he wished to make it quite clear that he was at all times ready to meet the executive of any responsible body of listeners or radio societies. He was invited to attend the meeting, but was not consulted as to the convenience or otherwise of the date chosen, nor was his permission secured regarding the use of his name in connection with the meeting. He could not undertake to attend public meetings at the peremptory demand of any section of listeners.

Dealing with the actual points made at the meeting, he expressed surprise that no new ground had been covered, all the points having been traversed on a number of previous occasions and fully answered by the Government or the company. The letter of the league had stated that listeners were very dissatisfied, both with the programmes from IYA and the whole system of administration of broadcasting. He would like to know what steps the league had taken to secure this extraordinary comprehensive knowledge of the views of listeners. The company desired full contact with listeners in order to as-

—(Continued next page.)

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A209 (110 AMP.) POWER	12/6	A209 (100 AMP.) GEN. PURPOSE	12/6	A209 (100 AMP.) GEN. PURPOSE	12/6
FOR 2 ACCUMULATOR CELLS		FOR 2 ACCUMULATOR CELLS		FOR 2 ACCUMULATOR CELLS	
A209 (100 AMP.) GEN. PURPOSE	12/6	A209 (100 AMP.) GEN. PURPOSE	12/6	A209 (100 AMP.) GEN. PURPOSE	12/6
A209 (110 AMP.) AUDIO	12/6	A209 (100 AMP.) GEN. PURPOSE	12/6	A209 (100 AMP.) GEN. PURPOSE	12/6
A209 (110 AMP.) POWER	12/6	A209 (100 AMP.) GEN. PURPOSE	12/6	A209 (100 AMP.) GEN. PURPOSE	12/6
FOR 3 ACCUMULATOR CELLS		FOR 3 ACCUMULATOR CELLS		FOR 3 ACCUMULATOR CELLS	
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**PHILIPS RADIO**

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# Radio Matters In Auckland

(Continued from Page 14)

certain their wishes, and had the benefit of a steady stream of letters as well as much personal contact. In spite of these advantages, the company did not claim to know perfectly the whole mind of listeners, as was claimed by the Auckland Listeners' League, and he would be very glad to know the method pursued by the executive in obtaining its comprehensive knowledge. As against the wholesale condemnation of the league, the company's correspondence and contacts showed that listeners did very definitely appreciate the improved service that had been made possible by the forward move following the establishment of 2YA.

## A FINANCIAL COMPARISON.

In spite of the disadvantage of having to operate four stations on much less money than the leading Australian companies had to operate their one station, capable and experienced listeners of high musical taste were agreed that the New Zealand stations were giving programmes which, in general excellence, compared favourably with the Australian stations, although necessarily without the range of novelties available in those larger cities, simply because of greater population resources.

3LO, Melbourne, had an annual income of £98,000; 2FC, Sydney, £52,000; 3AR, Melbourne, £42,000; while New Zealand had last year but £35,000 with which to operate four stations. This sum was very much smaller than the misleading figures that had been freely used by many critics.

## THE PROGRAMMES.

It was remarkable that, while the league in its letter was "very dissatisfied with the programmes of 1YA," all the speakers at the meeting admitted that the artists engaged were the very best available, and that they were not making any attack upon them. They reduced their complaint wholly to one of lack of variety. He appreciated this point, and listeners could be assured that every effort was being made to secure variety. Variety, however, depended on talent of suitable calibre being available. The company's policy was to procure the best performers available, and encourage them to widen their repertoire, to which end comprehensive arrangements had been made for the regular supply of suitable new music. In this connection the copyright question was very important.

Notwithstanding that the company was paying about £60 per week for copyright, it was very restricted indeed in what it was allowed to broadcast.

They had not been able to obtain a catalogue of the works available for performance, but, on the other hand, they were continually receiving lists of works prohibited for broadcast. Some of these were often the lighter forms of music, which was the very class of music required by listeners. They had also to forward to Australia details of all items broadcast, not only vocal and instrumental, but also gramophone and pianola records. The same information had to be given with respect to relays, whether from theatres, dance halls, concert chambers, or elsewhere. In every case the title of the item, the composer's and publisher's names, must be given, involving a large amount of work. Because of this, all programmes had to be sent to head office. The system was for local programmes to be arranged at local stations, so as to suit local conditions, but the question of copyright was so complicated that it was not practicable or economical to deal with it except from one centre. From this they would understand that it was sometimes necessary to alter local arrangements, as until they got the proposed programmes and compared them with lists of prohibited copyright music which they were continually receiving, they could not approve of the programmes for broadcast. As regards the statements that all announcements were prepared by head office, they were untrue.

## COMPARISON WITH BRITAIN.

Mr. Harris proceeded to make an interesting comparison with the results achieved in Britain by the British Broadcasting Corporation in comparison with New Zealand. The British Broadcasting Corporation had some 21 stations, and in the territory covered there were some 44,000,000 people. New Zealand had four stations operated by the Broadcasting Company, and the population concerned was 1,373,000. For England to compare with New Zealand's position she would have 128 stations instead of 21; in other words, New Zealand on a population basis had six times more stations than England. On a power population basis, we had already installed for the New Zealand people ten times more service than that provided in England. All this had been done in face of the fact that England had a three years' advantage over the New Zealand Company. In comparing the patronage won, it was to be noted that the number of licensed listeners in New Zealand to the population gave a ratio of one license to every 35 persons. When England had been operating her service for the same period as New Zealand had, there was only one listener to every 43 persons, in spite of the fact that in

England the population per station was greater, the fees lower, and the facilities for broadcast much greater than in New Zealand. The fact, however, was that the public response here had been greater, and no better testimony could be secured as to the real efficiency of the company's enterprise.

## SOME METHODS NOT HELPFUL.

There was nothing really fresh to add in the matter of accounts, Mr. Harris said. Under the company's agreement with the Government, all expenditures were subject to Government audit to see that the terms and conditions of the contract were being observed. The company had invested £50,000 in plant to enable a satisfactory Dominion broadcasting service to be carried on. "The company fully appreciates the desires of listeners, and is doing its best to meet those desires, but I cannot agree that the methods adopted by some listeners are always the most helpful," Mr. Harris said:

"If listeners really want improvement it would be far better to pull together than to undertake destructive propaganda, which is without foundation in fact. The effect of this can only be to give over a period the general impression to the public of chronic grumpiness, which will hinder increased participation in the undoubted enjoyment possible from radio."

"In entertainment value, radio has nothing to compare with it. It is the most economical and comprehensive news and entertainment service possible. It takes right into the home news of the day, market reports, instruction and entertainment, music, sports, and national events. The future of this service is immense, and its capacity for instruction and expansion unlimited. Its growth will be best served by co-operation rather than by unjustified criticism."

## DEALERS' VIEWS

### SUPPORT FOR THE COMPANY.

That helpful suggestions would be better than destructive criticism of the policy and programmes of the Radio Broadcasting Company, were the views expressed at a special meeting of the Auckland Radio Dealers' Association, following on the league meeting. Mr. V. R. Johns presided over a good attendance.

While admitting that some items on the programmes were not popular, members thought the consensus of public opinion was that the programmes, as a whole, compared more than favourably with those given by Australian stations, especially in view of the restricted amount of local talent available. It was agreed that programmes had improved considerably during the year, and, from information available, members expressed satisfaction that further improvement could be anticipated.

It was said that many recent improvements and innovations were the direct result of suggestions from private listeners, and the hope was expressed that such suggestions would continue to be made.

## LETTER FROM THE LEAGUE

(To the Editor.)

Sir,—In case your readers may have got the impression from your issue of the 16th inst. that the Auckland Listeners' League is connected with or is adopting the tactics set out in the anonymous letter published by you, I should be obliged if you would publish this letter.

I agree with the views expressed by the meeting that a private letter written by a listener to an employee of the company should not have been published in your paper, especially as its position on the same page which referred to our meeting would give the average reader the impression that the Auckland League favoured such sentiments. The writer of the letter is not connected in any way with the executive of the league, and if you had cared to make inquiries the policy of the Auckland League since July last has been to try and produce a workable scheme of co-operation between the company and listeners.

I might add that should you have taken exception to various criticisms in the papers—and such papers have a perfect right to criticise those who handle a public utility—as far as the league is concerned, I do not know of any official statement which was made to the papers this year by the league prior to our meeting last Monday. Should you desire to produce a paper which is impartial both to the company and listeners, I trust you will verify the facts before again imputing to the Auckland League motives that do not exist. [Will our correspondent cite where we have made any such imputation against the league?—Ed.]

I should like to add that the meeting on Monday was a protest against the company and Government for not attempting to produce better co-operation between the listening public and those in charge of such a national utility, although promises to do so had been made by both.

I am glad to see in yesterday's papers that the company is making overtures towards co-operation of some sort, and trust that you will allow space in your paper, should my executive so desire, for the publication of its scheme of co-operation.

The public will then be able to judge between the two schemes, and also as to whether the Auckland League has deserved the criticism which has appeared both in your paper and in other papers from the company.

In conclusion, I should like to quote your words appearing in your leader of the first issue: "Broadcasting cannot succeed without the fullest co-operation between the listening public and the company providing the service for their delectation."

Also your conclusion: "It will be only by mutual co-operation and mutual understanding that the common desire will be attained."

To attain the common desire both the company and the listeners must be prepared to meet each other and give way on essential points. The co-operation must be mutual and not one-sided. A writer once very wisely said: "Men cannot co-operate successfully for any purpose if the sole bond between them is self interest."—Yours, etc.,

A. CECIL JACOB,

President Auckland Listeners' League.

We must object to our correspondent's statement that we have imputed motives to the Auckland League that do not exist. We have done no such thing. Where have we discussed the Auckland Listeners' League and made any such imputations? Will our correspondent please justify his statement? The suggestion that some dark horse on the league's executive was out to "tear things up a bit" was in a letter which, in spite of our friend's opinion to the contrary, we think we were perfectly justified in publishing in order to expose to the public that there were some interests—we did not say the Auckland Listeners' League—which were definitely out to pin prick and damage broadcasting, and which the daily evidence in the Press indicated to be in operation. The keenness of the league to be disassociated from this course of action endorses our view of its disreputable character and justifies our exposure of it. As a solicitor, Mr. Jacob knows that ownership of a letter rests in the recipient, not in the writer; further, he knows we did not reveal the writer's name—the league brought that out—but revealed only the methods proposed. The suggestion about the contagious influence of juxtaposition on the same page is too thin altogether.

We will freely concede that the executive of the league aims to help broadcasting; but we do very seriously question the wisdom with which that aim has been prosecuted, inasmuch as speakers at both of the public meetings held—not excluding our correspondent himself—have endeavoured, in our view, to create prejudice rather than present facts fairly. Our correspondent is a member of a very honourable profession and will know whether the guise in which the company's contract with the Government and its articles of association and alterations thereto were presented to the two public meetings was strictly fair and honourable or whether those statements were warped in such a way as to excite prejudice on the part of those ignorant of legal niceties.

It is true that the public and the Press have a right to criticise anything that affects them, and no one has ever disputed that right. But misstatements are not criticism; and to be effective criticism must be fair. The league would be serving a very useful purpose if it sought to correct misstatements that have appeared in the Auckland Press. As these papers are contributed to by members of its own executive, a request that they should verify such statements before permitting them to be published should meet with a favourable reception. If our correspondent would undertake this rather than charging us with an act of which we are innocent it would be more to the point. According to the general manager's statement, the company has been consistently working towards an effective scheme of co-operation with those interested in broadcasting for months past. A preliminary scheme was submitted the Auckland executive in November last—the same one that our correspondent so helpfully characterises as "puerile"—and, incidentally, although confidential, a summary of it was published in the Auckland Press. The scheme now submitted has evolved from that.

Finally, we would say that, in spite of the league's attack on "The Record," we will willingly publish its scheme for the information of the public, nor will we demand payment therefor, as the Auckland Press did to the company. We have always stood since our establishment ready to render the fullest help to any league or set of listeners in furthering radio, and the league has only itself to blame for not having more publicity through our columns. We are quite impartial and desire only to see broadcasting flourish for the fullest satisfaction of all. We are quite prepared to criticise the company when it deserves it, but we believe in giving those concerned a fair chance of evolving order and harmony out of limited and to some extent untrained material before embarking on criticism which in that stage would be unjustified.—Ed.]

When Clyde Smith, of Bebe River, New Hampshire, returned to his home after the flood that swept New England, U.S.A., he found his receiver under mud and water with the rest of his furniture. After it had been dried and hooked-up, the first station tuned in was playing "It Ain't Gonna Rain No More!"

# The Children's Charter

Talk by Mr. E. C. Cutten S.M.



FROM 1YA recently, Mr. E. C. Cutten, S.M., delivered an informative talk on "The Children's Charter" and the work being done on behalf of the children of the world by the Child Welfare section of the League of Nations.

The committee, he said, which deals with child welfare was set up in 1924, and it is called "The Advisory Committee for the Protection of Children and Young Persons." The League had been doing a great deal of child welfare work before this committee was set up. The Save the Children Fund, which commenced its great work immediately after the war, the main endeavour being to save the children from some of its most terrible effects, was administered in conjunction with the League, and much of its work covered the whole ground of child welfare.

THE first Child Welfare Congress called by the new committee met in 1925. Fifty-four nations, including New Zealand, were represented. The congress passed a series of resolutions which were subsequently adopted by the Assembly of the League of Nations, and became "The Declaration of Geneva." In view of what is contained in these resolutions, it is of interest to note that 54 nations were represented at this first congress; it is further of interest to note that the resolutions were passed unanimously, and that they were adopted unanimously by the League Assembly.

THIS immediate interest of nearly all the peoples of the world only appear to have been created by the League, the League's work was more in the nature of a match set to powder. The supreme importance of the child is a thought set deep in the hearts of all people, and it needed only the spark created by the committee's work to set the interest of the world aflame. The main objects of the Declaration of Geneva are set out in these five articles, and of these I wish to draw particular attention to 1 and 5:—

Article 1.—The child must be given the means requisite for its normal development both materially and spiritually.

Article 2.—The child that is hungry must be fed; the child that is sick must be nursed; the child that is backward must be helped; the delinquent child must be reclaimed; and the orphan and the waif must be sheltered and succoured.

Article 3.—The child must be put in a position to earn a livelihood, and must be protected against every form of exploitation.

Article 4.—The child must be the first to receive relief in times of distress.

Article 5.—The child must be brought up in the consciousness that its tal-

ents must be devoted to the service of its fellow men.

The first comment to make upon these articles is that they merely give expression to thoughts deep-set in the hearts of all people. There is no normal grown person who in ordinary circumstances would not give effect to these if the occasion arose. That is why the first congress was almost fully representative of the nations of the world, and that is why the resolutions were both passed by the congress, and adopted by the League Assembly unanimously.

THE Declaration of Geneva is rightly called "The Children's Charter." There are one or two things in this charter to which I value this opportunity to draw attention. Article 1 contains the whole declaration. The other four articles state the more important illustrations of its application. Articles 2, 3, and 4 deal for the most part with the child's material development, article 5 with its spiritual development. The first instinct of nature is to carry on. If we would carry on as individuals we must attend first to our material needs, and if we would carry on as a nation, to our spiritual needs. The same instinct presses us to see carried on the family and the nation. Both these are carried on by the child, and if we would see them carried on we must provide the child's material development, and if we would see them carried on as a nation, we must provide for the child's spiritual development. The progress and happiness of the future depend upon the way we bring up and train the child of to-day. The success of the League of Nations in the attainment of its ideal, the peace and happiness of the world depends upon our adherence to the Declaration of Geneva. When the children of each nation are brought up in accordance with this charter, when every child is brought up in the conscious knowledge that the object of its life is the service of its fellow-men, then the peace of the world will be assured.

THE League of Nations Union in each country does not appear to be doing the actual work of the League; it is, in fact, doing a very important part of it. In extending the knowledge and interest in the League, and in strengthening the belief in it and faith in it, the union is creating the power upon which the League depends; that is, the strength of public opinion in the countries of its constituent members.

In the future the union will take a more definite part in the League's actual work, and that part will be to interest itself in the education of the young, and to see to it that every child is brought up in the conscious knowledge that the object of its life is the service of its fellow-men.

## Children's Sessions

### 2YA CHILDREN'S NOTES

Monday—Hurrah, another week in which to go through the mysteries of the ether. That's the Radio Fairyland, little ones. Uncle Toby and Uncle Jeff, with some new friends from the Thorndon Normal School, will conduct you on the first part of the week's journey.

Tuesday—Here is Uncle Jasper to lead you through Tuesday's magic hour. He will bring Auntie Dot, and also those merry little troubadours of ours from the Berhampore School.

Friday—Uncle Sandy will tell a tale of wondrous things. He will teach you the language of Fairyland. Some merry little songsters will help him to do this.

Saturday—Auntie Gwens and her little followers will prove to you that the end of the week contains no less wonder and joy than the beginning: choruses, songs, sketches, etc.

Sunday—Children's Service. Uncle Ernest pairs vivid word pictures for the little ones. The Terrace Congregational Church will sing favourite hymns for you all.

### BIG BROTHER OF 3YA.

For some time to come "Big Brother" will not be heard at his usual time on Friday evenings at 3YA. The local Y.M.C.A., of which "Big Brother" (Mr. A. J. McEl-dowry) is secretary, is carrying out a big membership campaign, and "Big Brother" must needs give it all his attention. Worthy substitutes will take his place at 3YA. Among them will be "Peterkin."

### 3YA CHILDREN'S SESSIONS.

Monday, April 2—Uncle Jack and Aunt Edna in bright and breezy songs and stories. Always plenty of tales for little and big when these old friends "cuddle the mike."

Wednesday—Uncle Peter and Mother Hubbard will while away the bedtime hour. Cousin Tullock is bringing his banjo along, so you will have some fun. Ting-a-ling-a-ling. Tim-pang-pang!

Thursday—Chuckie and Aunt Pat once more delight the little ones. And we are to have a chummy story by Cousin Joan. Dialogue, "The Muffin Man," by Cousins Audrey and Evelyn. Song, "Carnival," by Cousin Ewart, and an Easter chorus by the company.

Saturday—Here are Uncle Sam and Aunt May keeping the little ones bright and merry for an hour. New stories for the tiny tots and more of "The Secret Garden" and "Serpent Creek" for the bigger ones.

Easter Sunday—The song service that young and old look forward to. Cousins from the New Brighton Methodist Sunday School will sing Easter hymns and Cousin Ewart will sing "There is a Green Hill" and "The Legend." Uncle Sam will give an appropriate story-talk, as usual.

## Wireless Schools

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## S-O-S

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# Round the World with Two Valves

## How New Zealand Stations Were Heard in U.S.A.

Walter R. Pierce, with an out-of-date two-valve set, on Rhode Island, off the Atlantic Coast of the United States, has heard 694 broadcast stations, including the four New Zealand stations. He attributes his success to a remarkable "earth" he has devised.

**A**L who have been holding records for long-distance reception of broadcasts, and those whose imaginations have placed them in the class with world champions, now can retire from the limelight (writes Armstrong Perry in the New York "Radio News"). Walter Rodman Pierce, Junior, a 17-year-old boy of Saunderson, Rhode Island, seems to have all the other known DX artists backed completely off the boards with a record of 694 stations in 41 countries.

When Pierce's friend and brother "ham," Franklin R. Rowell (IAMU), of Pawtucket, told me at a recent New England convention of the American Radio Relay League that Pierce was receiving broadcasts from Japan, the Philippines, Australia, and other countries in all parts of the world, on two tubes, it sounded like the result of a superheated imagination. But Pierce appeared to be an honest young man; and he gave me from memory the call letters and locations of so many stations that he said he had logged, that I knew he must have either heard most of them many times or else spent most of his time memorising the call books. He said that he had letters and cards from many of these stations, verifying his reception. Still, his record was so remarkable, so nearly incredible, that I decided to visit his home and see the evidence before making any unqualified statement.

Several months later I visited Saunderson. Pierce's home, I found, was a farm back in the woods. A grocer on the highway took me over in his truck. I talked with him and with members of the boy's family while I waited for the boy to come home from school. The house is in a good radio location, on a hill that rises west of Narragansett Bay, opposite Newport.

Pierce's receiver is a Radiola III, a two-tube set which was well known a few years ago, but which is now entirely off the market. He had the little set on a table in the living room; it was hooked up to three dry cells and two 45-volt "B" batteries. He was using tubes of the 199 type, with adapters. Instead of the WD-11 type for which the set was designed.

### ELABORATE GROUND SYSTEM

From the looks of the outfit, I would have said that New York would have been DX for it; but outside the window there was something unusual. The wire that led from the ground connection on the receiver out through the window ended at a binding post on a porcelain base. From this post twelve wires led to the same number of pipes or other pieces of metal embedded in the ground (see illustration). Pierce said that he found that each new ground connection increased selectivity and reduced the effect of body capacity; so he added one after another.

A leaky automobile radiator was sunk in the ground, at the end of the row of pipes, with its caps just above the surface so that water could be poured into it. Circumstances alter cases. On a device for keeping the ground connection, that radiator could only have inspired profanity; here it was an ideal

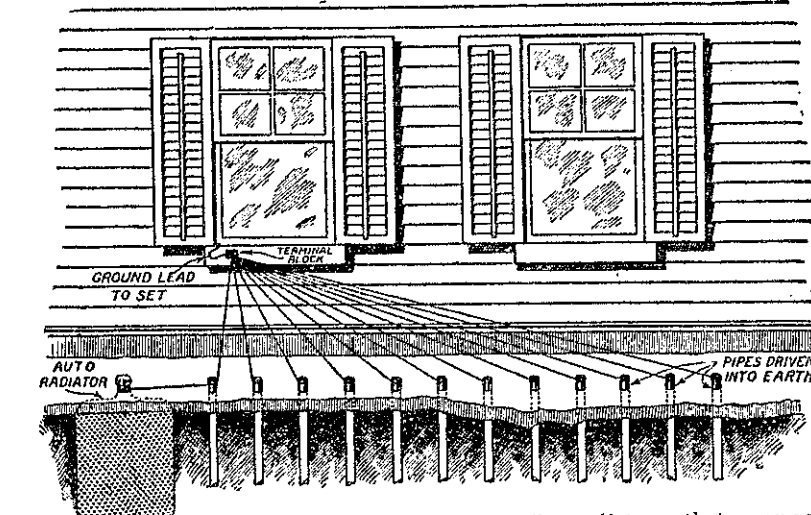
tions wet. The ground clamps on the pipes were bright. Pierce said that he put on new ones every few weeks. It became evident that his phenomenal record was not the result of accident.

### AN ORDINARY AERIAL.

The aerial is 110 feet long and 26 feet high; it points N.N.E., with the set at the southerly end. Two glass insulators in series at each end prevented the escape of energy. The wire was of bare copper which, Pierce said, gives better results than tinned copper. He puts up new wire to replace the old every few months, or as soon as corrosion becomes noticeable. The aerial is kept taut, to prevent swinging.

### ACROSS THE OCEANS.

It was still daylight, though late in the afternoon, when I sat down at the receiver. As soon as the tongue of the rheostat touched the first turn of wire, a station jumped at me. So many



The twelve pipes and the leaking automobile radiator that composes Pierce's ground system. The radiator keeps the whole ground system moist.

came in as I turned the knob that I advanced it only an eighth of the way to the maximum setting. These stations were within a radius of about 200 miles.

Pierce took charge of the set and turned the rheostat knob to the maximum position. There was another rheostat at the batteries, adjusted so that it was impossible to injure the tubes by turning the one at the set too far. Almost immediately he brought in 2LO, London, England!

When we tired of tuning in stations, we took off the phones and cut in the loudspeaker, an ordinary low-priced horn. Providence and New York stations came in with volume enough to fill the room and be heard anywhere in the house. Like his phones, his loudspeaker is a standard device, of a kind sold in most radio shops. There is not a piece of apparatus in the whole outfit that is of special design or expensive. Pierce is a farm boy, attending high school, and has little money to spend on luxuries. He said he had used the same "B" batteries for two years.

### IYA, AUCKLAND HEARD.

After a night's rest, we rose at early dawn and went back to the set to listen for stations on the other side of the earth. Station IYA, Auckland, New Zealand, was one of the first to come in. The carrier wave was strong, but the music and announcements were weak. An orchestra was playing. When it stopped, the announcement "IYA, Auckland Station," was heard. This was between 5.35 and 5.37 a.m., Eastern standard time, on November 1, 1927. The announcement was logged again at 5.45.

A number of stations in the Antipodes, including JOCK, Nagoya, and JOAK (no joke!), Tokyo, Japan, and 2YA, Wellington, New Zealand, were recognised by their carrier waves. The average broadcast listener may doubt the ability of any person to identify stations by the sounds of their carrier waves; but some may have discovered, as Pierce did, that it can be done. For two years he has operated his set sev-

Some of the stations are so far away that four months elapse before the reply comes back. Among the letters and cards that he showed me were some from LOX, Buenos Aires, Argentina; 4QG, Brisbane, Australia; 6CL, Adelaide, Australia; KGBU, Ketchikan, Alaska; CZE, Mexico City; HHK, Port au Prince, Haiti. Several English stations answered his letters, but their replies were somewhat indefinite.

He has many verifications from stations in the United States and Canada, from coast to coast, but he considers nothing as real DX except from another continent or its islands.

### SOME OF THE FOREIGN STATIONS.

Among the stations outside of the United States and Canada that Pierce has logged, many of them several times, are:—

Mexico: CYX, CZE, CYJ, CZI, CYO, CYB, CYH, Mexico City; CYS, Monterey; CYV, Merida; CYR, Tampico; FAM, Guadalajara; CYR, Mazatlan; CYU, Puebla; CYQ, Tampico.

Cuba: PWX, 2BB, 2TP, 2HC, 2HP, 2OK, 2RK, 2TW, Havana; 7SR, Central Elia; 6KW, Tuinucu (this station came in louder than any other that Pierce ever received). On December 30, 1926, he thought it was going to burn out his loudspeaker; 8JQ, Santiago de Cuba; 6HS, Santa Clara; 7BY, Camaguey.

Haiti: HHK, Port au Prince.

Central America: AQM, San Salvador.

South America: CMAC, Santiago, Chile; SQIG, Sao Paulo, Brazil; AYRI, Caracas, Venezuela; CBC, Santiago, Chile; OAX, Lima, Peru; LOX, Buenos Aires, Argentina; CMAT, Tacna, Chile; CWOZ, Montevideo, Uruguay; Pernambuco, Brazil; LOP, Buenos Aires, Argentina; LOS, Buenos Aires, Argentina; CWOR, Montevideo, Uruguay; CNA, Valparaiso, Chile; Rio Janeiro, Brazil (no call letters announced); LOY, Buenos Aires, Argentina; LOV, Buenos Aires, Argentina; CMAB, Santiago, Chile; SPT, Rio de Janeiro, Brazil; LOU, Mendoza, Argentina; LOZ, Buenos Aires, Argentina; LOR, Buenos Aires, Argentina; LOT, Buenos Aires, Argentina; CWOS, Montevideo, Uruguay.

Greenland: OGG, Godthaaven.

Iceland: Reykjavik.

Alaska: KGBU, Ketchikan; KFQD, Anchorage.

Europe: 2LO, London; RAJ3, Cadiz, Spain; IMI, Milan, Italy; 5PY, Plymouth, England; Skatudden, Finland; Oslo, Norway; Berne, Switzerland; RAJ7, Madrid, Spain; SRR, Brussels, Belgium; PPTT, Paris, France; 2ZY, Manchester, England; 5SC, Glasgow, Scotland; 5IT, Birmingham, England; 5NO, Newcastle, England; RAJ1, Barcelona, Spain; IL, Paris, France; LA, Langenberg, Germany; 2RN, Dublin, Ireland; RAJ4, Madrid, Spain; RAJ12, Oviedo, Spain; Stuttgart, Germany; RAJ2, Madrid, Spain; RAJ22, Salamanca, Spain (this was the loudest European station heard); IIA, Hamburg, Germany; PTT, Toulouse, France; INA, Naples, Italy; 6CK, Cork, Ireland; Copenhagen, Denmark; RAJ13, Barcelona, Spain; Bordeaux, France; RAJ25, Malaga, Spain.

Africa: Senegal, West Africa; WAMG, Capetown, South Africa; Radio Casa Blanca, Morocco.

Asia: KZUY, Baguio, Philippine Islands; JOAK, Tokyo, Japan; JOCK, Nagoya, Japan; JOBK, Osaka, Japan; JOBK, Keijo, Japan; KZRO, Manila, Philippine Islands; IST, Singapore (reception uncertain); KRC, Shanghai, China; 5HK, Hongkong, China; 7CA, Calcutta, India; KZRM, Manila, Philippine Islands; XOL, Tientsin, China.

Australasia: 2BL, Sydney, Australia; 5CL, Adelaide, Australia; 4QG, Brisbane, Australia; 3LO, Melbourne, Australia; 4YA, Dunedin, New Zealand; 3AR, Melbourne, Australia; 2FC, Sydney, Australia; IYA, Auckland, New Zealand; 4RN, Rockhampton, Australia; 2KY, Sydney, Australia; 2YA, Wellington, New Zealand; 3YA, Christchurch, New Zealand; 5DN, Adelaide, Australia.

Hawaii: KGU, Honolulu.

Pierce logged Australian stations every month in 1927. They and others in the antipodes came in best about 4.30 to 5 o'clock in the morning, when he had to get up to do the milking and other chores. European stations were best from 4.30 to 7 p.m., and South American stations from 5 to 11 p.m.

### THE BEST RADIO NIGHT.

During the evening of March 13, 1927, Pierce started his family by loud whoops of joy. It was one of those rare nights when radio was at its best. He logged the following:—KGU, Honolulu; KGBU, Alaska; AGM, San Salvador, Central America; CMAD, CMAT and CMAB in Chile; LOX, LOZ, LOV, LOP, and LOY in Argentina; RAJ22, Spain; SQIG, Brazil; Rio de Janeiro, Brazil (no call letters announced); CWOZ, Uruguay; OAX, Peru; Durban, South Africa; CYR and CYU in Mexico and PWX, Havana.

Pacific Coast stations in the United States came in almost as easily as those near home. Unidentified foreign stations came in on 345, 288, and 307 metres.

Pierce's radio log, kept with painstaking care for two years, will convince anyone who examines it that it is an authentic record. Many of his records are verified by letters or cards from the stations heard. And there is other evidence almost as strong, or perhaps stronger.

The character and reputation of the family are above question. They live on the homestead where their ancestors settled more than a century ago. The father is a farmer who supports the fine old traditions of a line of forebears with a record stretching back to the days of William the Conqueror. Mrs. Pierce held a responsible position in business before her marriage, and is a leader in the Parent-Teachers' Association of the local schools.

I met five other members of the family. Fond parents may overrate a boy's achievements, but little brothers and sisters are brutally frank. From "Baby" in the third grade of school to big sister in the Rhode Island State College, they all believe that Brother Walter is a marvel. They too have heard the distant stations, and they repeat the announcements and call letters with all the linguistic colloquialisms of Spain, Australia, and the rest.

## Views in Our Mail Bag

### North Taranaki Reception.

J. R. Miller (Uruti): I have been putting off complaining regarding the reception of the Radio Broadcasting Company's stations for the past fortnight, in the hope that they might improve. In this week's "Record" a letter appears, written by "Disgusted," of Patea, who says the North Taranaki Radio Society are kicking up a row over nothing. Well, if "Disgusted" lived in this district he would not listen-in at all, as both 2YA and 3YA fade badly all the time; 4YA is not loud enough to enjoy; while 1YA, which was previously the only station received here without fading and distortion, is now fading badly and terribly distorted.

I have been listening to 1YA since its inception, and have never known it to fade before, so it is quite apparent that the transmission is at fault. On the other hand, I have never heard yet an evening's programme without fading.

Now, Sir, the company has improved the fare provided out of all sight during the past year, and I wish to congratulate them on this score; but, of course, there is always scope for improvement in this direction. If the company spent more money in improving the quality of its transmissions, much more progress would be made in the number of licenses, as people will not (in North Taranaki, anyway) buy sets until reception is better.

Mr. Harris promised the North Taranaki Radio Society that the fading problem would be investigated, and, if possible, relieved, but so far no such relief has occurred.

My other cause of complaint is that the voice of the announcer, Mr. Ball, of 2YA, is much too deep to be easily comprehended on a cone type speaker, and is bad enough on a horn type.

I would like to congratulate 2YA on the Symons-Billwood Short Trio,

the Mellow Fellows, Mr. Billy Hart, Mr. Lad Haywood, Two Boiled Owls, and also many other artists whose items are presented.

### Silent Day Desired.

Doug (Seaton): While listening-in on Thursday, 22nd, after the Australian stations had closed down, I turned around the dials, and at 31-66 I got a very faint whistle, and could then hear music which was hardly audible, so I turned round and at 20-66 heard another whistle. I tuned in very carefully and could hear jazzing and singing quite distinct. This was at 1.30 a.m. (23rd), and I listened until 1.45, but did not hear words I could understand, so I packed up. Now, could you tell me what stations they were? I have only a one-valve (Mullard PM3) set (home-made at a cost of \$4 10s.), and here are the stations I have heard:—20-66, at 1.30 a.m. (?); 31-66, at 1.30 a.m. (?); 60-70, 3YA; 64, whistle only; 68, 1YA; 70, 2BL, first choice; 75, 3LO, second choice; 80, 4QG, very blurred; 83, 5CL, very faint; 85, 2YA; 87, 2FC, third; 90, 4YA; 93, 3AR, almost as good as 3LO after 12; 96, whistle only (tell me); 98, Wellington Morse station; 15 stations.

There is one thing I would like to say. I would be very sorry if Wellington did not have a silent day, as some correspondents wish, otherwise how would a lot of listeners in Wellington get other N.Z. stations? [Yes, write your inquiry to Megolm.—Ed.]

### Salvation Army Music.

H.C., Westport: Having taken the "Radio Record" since its inception and studied the weekly letters from the different towns asking what sort of music to put on. Well, I would like to ask for a little more of the Salvation Army concerts, such as cornet solos. While asking for this I for one am quite satisfied with what we are receiving, but this might appeal to quite a lot of radio listeners if published. I have a six-valve set and

get real good, clear results here. Have very often to cut 2YA back, volume too strong; receive 4YA at good loudspeaker strength and only have 80 volts B battery. Aussie stations very strong at present.

### More Light Music Wanted.

S.S., Wellington: I am writing you a few lines to know if the radio programmes could not be brightened up a little, and I know a number of people who, like myself, would like to hear something different than what we have been getting lately. I would like in the first place to refer to the Musical Trio, who are without doubt very clever musicians, but we get fed up with first and second movements and sonatas, etc., which are played week after week with regular monotony, and often wish this clever trio would play tunes which most persons are familiar with, such as Gilbert and Sullivan operas or musical comedy tunes, which would be a very welcome change from the dreary drawn-out pieces we have to listen to. Also some new artists would be very much appreciated, as we hear almost the same ones week after week, singing and playing the same old songs and tunes. I may state that if a change is not made, fewer licenses will be taken out this year.

### Exchange of Views Wanted.

R. J. Crabbe (Napier): I was very pleased to see several answers in this week's "Record" to my inquiry concerning the strange station on 2YA's wavelength, and wish to thank these gentlemen.

I see that one correspondent, Mr. S. R. Illis, of Taranaki, has apparently mistaken my letter for one of Dr. Ziehl's, and is asking a few inquiries concerning my set. If Mr. Illis would be kind enough to send his address to me, c/o P.O. Box 326, Napier, I would be pleased to correspond with him, and reception in Napier and Taranaki could be compared from time to time. The station Mr. Illis heard playing band music and fading badly on about 230 metres was undoubtedly KFON, the Piggly Wiggly Station, Long Beach, California.

Since last writing reception has improved, but static has been very bad during the last week. Last Sunday night was exceptionally good, although there were occasional loud bursts of static. On this night I tuned in 2TR, Sydney, at fine speaker strength. This is a fine result, as 2TR works on only 250 watts. I have received a chart from KFON, containing pictures of their station, artists, etc.

5DN and 5CL, Adelaide, as well as 3TZ, Melbourne, along with the usual Australian stations, were heard to advantage on nights when static was not so bad. Morse interferes with reception here, and boats have some nights kept up their transmission for more than an hour on end. Needless to say, listening was out of the question. Thanking you and wishing the "Record" long life and every success.

### ON SHORT WAVE

(Continued from Page 5.)

set, one valve, with No. 16 double cotton lunched wire coils, three in the aerial, five in secondary and primary fastened in telephone terminals. The aerial is made variable, being fastened on a 1/2 dowel stick and works backwards and forwards. I am using a 40B B valve, the base of valve being insulated with rubber. My aerial is electronic wire, 85ft. long to set; earth No. 18 ordinary electric light cable with three separate earths, one fastened to coil in ground, one on tin and the other runs into a bottle of water buried about 2ft. in ashes. I have only been experimenting with it a fortnight; in fact, only taking it up against seven months ago, so I am quite an amateur at the game. On Monday morning at 6.10 a.m. I got 3LO Melbourne at good crystal strength. This morning, imagine my surprise, when at 6.30 o'clock I got a clock booming out 7 p.m., then an announcement and piano solo. After that a lady sang and also a gentleman. Then a man spoke for some time, mentioning London several times. I saw Mr. Sellins personally about 8.45 and he told me I had got 5SV, Chelmsford, working on 23 metres, he having got the same station on his loud speaker.

### RADIO TELEPHONY

#### BEAM PROMISES CITRAPNESS.

Wireless telephony across the Atlantic over a beam system which would not only be free from interference than the present service, but also could be furnished for about a fifth of the present cost, was predicted by Senator Marconi in an interview in London on February 3.

"We are devoting a good deal of attention to the super-imposition of telephony on the telegraphic signals now being sent over the beam system," he said. "The results have been so satisfactory as to warrant the hope that in a period of months we shall be able to take advantage commercially of this important development."

"Telephony under these conditions would be very much more economical than at present. The financial return from the telephony would pay largely for the operating expenses of the telegraphic service and make it possible for us to give wireless telephone service certainly at a much cheaper rate than the present 75 dollars (£15) for three minutes."

"The greater the success of our experiments, the greater reduction we may be able to make in the charge. It might be less than 15 dollars (£3) for three minutes."

What I think makes it more remarkable is the situation I am in: surrounded by houses and not the best of aerials, and the set is just an amateur made one.

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