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What 2YA Says Of Singapore

Nut-Shell Summary Of Empire Factors

In the interesting talks on Imperial Affairs given from 2YA, Singapore was last treated, and the reason why it is vital to New Zealand and Britain's overseas interests for that base to be built. These talks are proving very popular for they summarise the points of value that are too often unrevealed in scattered newspaper announcements and references. Our Photographs here and on another page give some interesting glimpses of the site of the base and the sights of Singapore.

As a sequel to the lectures on naval disarmament it might be fitting to discuss very shortly the proposal to establish a naval base at Singapore.

This is not a new proposal. It has formed a portion of the naval policy of Great Britain for many years, and was discussed very fully and approved at the Imperial Conference of 1921. Preparations for the very extensive works that were considered necessary were put in hand after the most careful and detailed investigations had been made by Admiralty experts, to ensure that the most suitable site might be chosen for the base. The final selection fell upon the island of Singapore, on the opposite side of the island to the city of Singapore, facing the mainland of the Malay Peninsula, from which it is separated by the Straits of Johore, a deep sea-water passage about one mile wide and forty miles long. The opposite shores of the straits are in the territory of the Unfederated Malay State of Johore, and the straits have ample depth for the largest ships in the Navy, and space enough for the entire British fleet.

When the proposal had been put into concrete form, the question arose as to how far the British Dominions might be disposed to assist in the work. The Parliament of New Zealand, as a first instalment, voted the sum of £100,000 to be devoted to this purpose, and the Australian Government also announced its intention of providing financial assistance.

WORK INTERRUPTED.

At this stage, however, a change of Government took place in Great Britain, the Baldwin Government being defeated, and the Government led by Mr. Ramsay MacDonald coming into power. The policy of this Administration was opposed to the establishment of the Singapore base, on the broad general principle that a gesture of peace made at that time by the British Empire would enormously assist towards the cause of international disarmament and international peace, which the British Empire as a whole was and is disposed to assist to the utmost degree. As a result work on the base was discontinued and the contribution voted by New Zealand was not paid. The Australian Government, feeling it necessary to take precautions for its own defence, embarked upon a naval programme covering a number of years.

WORK RESUMED AS VITAL NEED

When the MacDonald Government was in turn defeated and the Baldwin Administration resumed control it was decided once again to proceed with the Singapore base. The subject was one of those considered at the Imperial Conference last year, when it was made plain that in the opinion of the British

Government and of the British Admiralty, it was vital to the security of the Empire that the scheme should be proceeded with, in order that the fleet should have that full freedom of movement throughout the British Empire that is essential. Mr. Baldwin said: "This development is most urgently needed at the present time from the point of view of Imperial defence. We would, therefore, ask those Dominions which are specially interested in the Far East to consider most carefully whether there is any way in which they can co-operate in the development of Singapore either now or within the next few years. There could be no more valuable contribution to the defence of the Empire as a whole."

present proposed, will be some £9,000,000, but it is quite possible, of course, that considerable expenditure will be required ultimately in addition to that. Towards this huge sum the Federated Malay States have voted the sum of £2,000,000, the New Zealand Government have offered £1,000,000, Hong-Kong has voted £250,000, and the Straits Settlements have donated the land, valued at some £130,000, upon which the base is to be erected.

So far as the New Zealand contribution is concerned, it might be noted that our expenditure per head on the naval defence of the Empire is at present some 8s. per annum, and with the extra cost of the proposed contribution towards the base, it will amount to some 10s. The Australian contribu-

tion is not yet known.

This is the principal objection to the proposal, and that it has considerable force cannot be denied.

As against this, however, those who defend the proposal point out that however great may be the desire of the British Empire for universal peace, and however genuine her attempts to assist and to lead the nations of the world along the paths of peace, the plain fact remains that other nations retain their armaments, and that while this is the case Britain must in self-defence do the same.

She cannot afford to abandon all practical considerations of national safety, and, disarmed herself, depend entirely on the goodwill of an armed world.

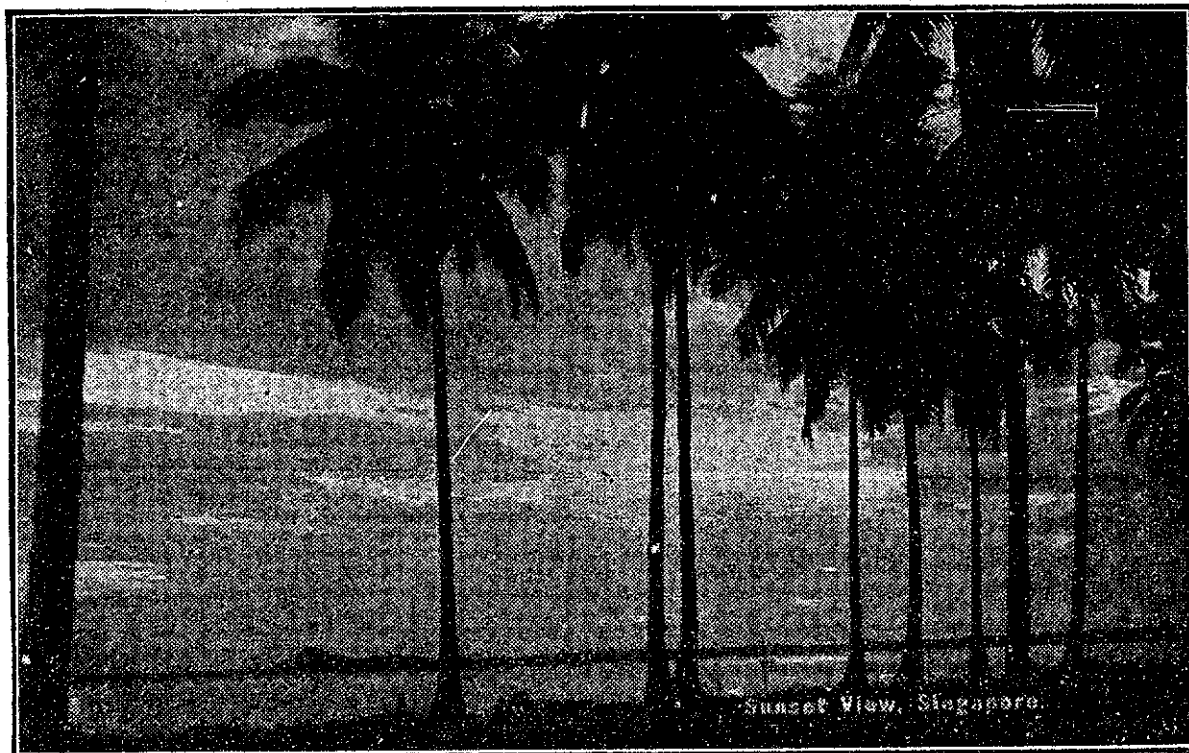
A second objection is that capital ships (i.e., battleships and battle-cruisers) are fast becoming obsolescent owing to the steady increase in the effective power of airships and aeroplanes; and that the huge expenditure proposed to provide at Singapore for the wants of these ships will be almost entirely wasted. In reply to this, the supporters of the base assert that the controversy as to capital ships, which was a burning question some years ago, is now practically a thing of the past. They point to the Washington Treaty, and to the fact that all important naval Powers are retaining these ships, as a conclusive reply to the suggestion that these vessels are no longer an effective instrument of war.

IS THE LOCATION RIGHT?

The next objection is that Singapore is not the correct place for the base. This suggestion has not met with much support, and the reply given is that Singapore is ideally situated for the defence of all British territories in the East and in the Pacific—India, Ceylon, the Malay States, Hong-Kong, British Borneo, Australia, and New Zealand. It is situated in close proximity to large supplies of oil, which will be required for refuelling, and in addition to its use as a naval base is excellently situated to form a link in the chain of Imperial airways, about which we shall have something to say in a future lecture. On this aspect of the matter Mr. Ramsay MacDonald, who, as explained above, is opposed to the base on ethical considerations, made the following remarks in the British House of Commons some years ago:—

"If we were driven to create a great fleet in the Pacific for the purpose of a needed Imperial defence, then the strategical position of Singapore is second to none in the whole vast area of those waters."

(CONTINUED ON PAGE 2.)



SIGLAP, SINGAPORE, SITE OF THE NAVAL BASE TO BE.

NEW ZEALAND'S SHARE.

It will be within the memory of all that the Prime Minister of New Zealand has recently announced the intention of the New Zealand Government to propose, for the approval of Parliament, a subsidy of £1,000,000 towards the prosecution of this base, the amount to be paid in annual instalments between the present time and the date when the base will be completed, estimated at some eight years. A debate on the proposal will take place in Parliament very shortly.

Now a few details as to the work that it is proposed to do. The intention is to provide on the site chosen an aerodrome, an aeroplane station, a floating dock, and a fuelling and refitting base capable of handling the largest ships in the Navy, all adequately defended from hostile attack. It is estimated that the total cost of the work, as at

present, is over 17s. a head, and in Great Britain the cost per head is more than 25s.

SOME OF THE OBJECTIONS.

It must not be thought that the proposal meets with approval in all quarters throughout the Empire. Various objections have been raised, and a few of these should be quoted here.

In the first place, there is a comparatively strong body of opinion that it will become the British Empire, holding the views that it does on the subject of international disarmament and international peace, to embark upon such an enormous scheme of warlike preparation. Those who hold this view contend that if the British Empire refrained from any such preparation for war a most important lead would be given to other nations, and that the moral effect would be a greater defence to the Empire than

The Parliamentary Machine---Cabinet and Upper House

It is characteristic of our British way of "making things work," adapting methods to the need of the moment, that Cabinet, the all-important influence in politics, the main-spring of the whole business, finds no place in our Constitution. There is the Executive Council, which meets in a formal way now and then, with His Excellency the Governor-General presiding, and his ministerial advisers in attendance.

But the business transacted by the Executive Council has been already decided at meetings of Cabinet, highly confidential affairs with no secretary and no formal record. To-day's Cabinet meetings are held in the Prime Minister's room on the ground floor of Parliament Building. A Cabinet room specially designed, with its handsome panels of Canadian maple—a gift from our sister Dominion—is never used mainly because it is not accompanied by a sufficiently extensive or convenient suite of offices for the Prime Minister's large staff. But there it is, with the conventional double doors to ensure secrecy—the inside door of the usual type, and the outside covered with heavy thicknesses of baize.

Only a minister can describe the Cabinet meeting from the inside, but one picks up impressions of it as an informal gathering for frank and open criticism. One minister, self-centred in his own affairs, brings forward a proposal, and colleagues viewing it from the wider angle of the possible effect on the country and the popularity of the ministry, pull it to pieces in a friendly way.

And the Prime Minister, supreme chief, sits listening, and at the right moment gives a decision. That is the final word.

There is no resolution and no division. The opinion of Cabinet is always unanimous. Any Minister who differs strongly on an important issue has no alternative but to resign.

Cabinet is a political team, with the Prime Minister as captain and sole selector. In picking his team the captain has to consider many factors, such as geographical representation, and important interests. He tries also to secure a good debating team, because the Government's policy must be ably presented and defended in Parliament, and on the public platform.

HOW IS THE CAPTAIN PICKED?

You will probably be asking by this time: "How is the Captain of the Cabinet team selected?" It happens in this way:—A general election results in the party which went to the country as the Government, being returned without a majority in the House of Representatives. Parliament meets, His Excellency the Governor-General delivers the Speech from the Throne, which is heard by the members of both Houses. Our elected members then proceed to debate the document on a formal motion: "That a respectful Address be presented to His Excellency, in reply to His Excellency's Speech."

The leader of the party having a

This is the last of Mr. C. E. Wheeler's present series on "Parliament and How It Works." From his observations, listeners have gathered a more vital impression of the "talking shop" and its functioning than was theirs before, but we do not think Mr. Wheeler has created any burning desire for Parliament to be put "on the air" as one of the standard items on the programme—not at least while stone-walling is in fashion. On this point, however, there is the experience of a European Parliament which was being broadcast. One long-winded speaker was holding forth at length, when he began receiving messages from his constituents telling him to "shut up." And he did! That promotes thoughts.... The day may come when major statements—the budget, for example, or a first class pronouncement of Imperial topics—may go direct to listeners from a microphone before Mr. Speaker, but, broadly speaking, listeners will be content to allow Mr. Wheeler and his friends to sift the wheat yet a while.

majority as a result of the elections moves an amendment something on these lines: "We deem it our duty to inform Your Excellency that your advisers have not the confidence of this House."

If that amendment is carried, out goes the Government, and the defeated leader's final official responsibility is to recommend the Governor-General to send for someone who probably commands the confidence of a majority. He, of course, name the member who moved the successful amendment. This gentleman interviews the King's representative, and undertakes to form a ministry. In due course, the team is selected, and proceeds to Government House, arrayed in the ceremonial frock coat and box hat, to take the oath of allegiance.

LIVELIER TIMES EARLIER.

It has not always been so decorous and formal, according to what I have read of the lively times of early days in New Zealand politics. When the centre of government was in Auckland, a gentleman who moved the fatal amendment of no-confidence went home to bed, not thinking a division would come that night. But it did, and he was pulled out of bed with a hurried injunction to see the Governor at once. "All right," said he, "wait till I get on a clean shirt!" And the "clean shirt ministry" it was christened. I think it lasted about as long as the cleanliness of the garment.

There are fourteen members of our New Zealand Cabinet, but the interesting phenomenon of a smaller "inside" Cabinet is not unknown in politics. One is speaking too close to events to mention whether this is a feature of the present Government, but old parliamentary hands could name off-hand the inside Cabinet of the late Mr. Massey—the few ministerial colleagues whose advice he never neglected to take when big affairs had to be settled. Thus there are "insiders" as well as "outsiders" in Cabinet.

When a Prime Minister resigns, the whole Cabinet goes out of office, and in the creation of a new ministry the Governor-General consults only one person, the man most likely to command the confidence of a majority of the House. If he undertakes to form a ministry, he exercises his choice unfettered by any meeting of his party.

The party meeting, known as the caucus is, however, an important factor in politics. As with Cabinet, it is a very secret affair, though its secrets are more difficult to keep—too many people are sharing. From time to time a party leader consults his parliamentary supporters, and from them obtains a good indication of how the Government's policy ap-

peals to the country.

Let me break the thread of the narrative just for a moment on a most interesting personal theme. This wonderful medium of broadcasting has, I find brought into our unseen audience prominent representatives of the past and the present in our New Zealand politics. I am sure you will be interested to know that listening in with you to-night is Mrs. Seddon, widow of a notable Prime Minister who passed away 21 years ago but whose name is not by any means forgotten. Greetings, Mrs. Seddon, from us all! And we have had in our circle the present Prime Minister, the Right Honourable J. G. Coates, who was good enough to tell me that he heard every word of the first lecture, and enjoyed it. In his breezy way, which carries him so far and so cheerfully along the rather rough road of politics, he told me to "carry on."

And now I will carry on the story.

THE "UPPER HOUSE."

Now I must tell you something about the Legislative Council.

The peaceful atmosphere of the Upper House is always a tempting subject for the outsider's wit. Lower House legislators envy the "Lords" their easy times, and their invariable habit of becoming a sitting in the afternoon. This second chamber business seems an easy affair everywhere. A parliamentary sketch writer has amusingly pictured a sitting of the English House of Lords. The time is approaching for the Lord Chancellor to take the chair. The writer describes the scene of intense activity in corridors and offices. Waiters are running around with trays, conveying last-minute refreshment—beef tea and toast. Orderlies hurry up with official papers—everyone is screwed up to concert pitch for the important occasion.

The Lord Chancellor takes the chair, reads the opening prayer—and then puts a motion:

"The question is, that this House do now adjourn."

And they adjourn!

That is just how it appeals to the hard pressed elected legislator of the Lower House.

MEMBERS ARE NOMINATED

Our Legislative Council attracts very little public attention, because it is not so self-assertive as the House of Representatives, not so closely in touch with the people. A member of the Lower House has never far from his mind the jury of public opinion, before which he appears for trial every three years. Our Legislative Councillors enjoy immunity from the rough and tumble of contested elections. They are appointed on the

nomination of the Government for seven years. Formerly we had life members, but this system disappeared many years ago, and the last of the life members is dead.

Now we have 40 Legislative Councillors, more than half of whom have been members of the elected chamber. Political wisdom is stored up in this the opportunity of bringing into our legislative affairs a type of useful man who has either excelled in practical affairs, or in thoughtful study of the problems of Government. Some of the best of these men are not cut out for the rough and tumble of an election campaign.

As the wife of a legislator once said: "I never knew what a scoundrel I married until he stood for Parliament!"

The country needs, somewhere in its scheme of government, those capable but retiring men who can be useful, and it would be my ideal of a Legislative Council to see such men, representative of many interests and activities, appointed to the Upper House, though they had never shown any aptitude for fighting party battles.

POSSIBLE CHANGES

In Britain at this moment, they are considering a somewhat radical innovation in connection with the House of Lords—the "mending or ending" of the House of Lords has been a phrase in party battle ever since the Gladstonian days, if not earlier. In this country, too, there have been threats to the Colonial counterpart of the Lords. As a matter of historical fact—I am sticking to facts you might notice, and not venturing too far to express opinions—there have been important changes. Our Legislative Councillors were formerly appointed for life, but this was changed for a seven year term many years ago, and the last of the "lifers," the Hon. Captain Bailey, of Marlborough, died a few years ago.

Every seven years, a Legislative Councillor is due for a renewal of his term, and the people who appoint him are the advisers of His Majesty's representative in New Zealand. How far this might tend to affect the important powers of the Upper House in reviewing the work of the elected chamber is a point for you to consider.

Our whole political scheme is a wonderful system of checks and balances, in which the Legislative Council may, if occasion arises, play an important part. The crisis might not come once in a generation, but it might happen that the electors, swayed by passion

in a time of national excitement, elect a Parliament, a majority of members pledged to some extreme action which turns out, in the light of colder reasoning, to be unjust. We could imagine an elected House, Chamber. The last three gentlemen who have been High Commissioners for New Zealand in London are there, also the former Speaker and Chairman of Committees of the Lower House. The nominative system gives fresh from the excitement of the hustings taking precipitate action—and we can hope that the Legislative Council will take a colder and more dispassionate view, not fearing intimidation from the public opinion of the moment. Herein lies the chief value of the bi-cameral legislative system. A statute is not law until it is approved by both branches of the legislature and signed by His Excellency the Governor-General. If the Legislative Council disapproves, it cannot pass.

Another interesting historical fact is that there is in existence on our statute-book, a law providing for an elective Legislative Council, returned on a very different basis from that of the Lower House, the number of proposed constituencies being four instead of eighty. This Act could be made operative to-morrow by the issue of an Order-in-Council—but many years have passed without that Order-in-Council—so it may be taken for granted that the powers that be are not altogether satisfied with the elective system instead of nominative for the second chamber.

The official Opposition, however, has no uncertainties. Its platform provides for abolition.

NECESSARY PECULIARITIES.

In these talks I have endeavoured to show that Parliament has its peculiarities. Its ways are the ways of circumlocution, it seems to be trammelled with ancient forms, and it works most in the hours when we would prefer to sleep. There are reasons for all this as I hope I have made clear. We are a democracy, and when we feel critical about our greatest representative institution, remember that it is but a reflex of the community it represents. You and I have a direct responsibility for it. Our vote settles its constitution, and if we see by intelligent exercise of our voting privilege that we return honest practical men, with a blending of idealists, then we get a Parliament to be proud of.

A highly qualified European writer on parliamentary institutions, Professor Seigfreid, summed up his impression of our little democracy in these words: "New Zealanders have made to use institutions, often antiquated, to perform new functions, and that, after all is one of the happiest secrets of the English spirit."

I take leave of you all in the hope that these necessarily scrappy efforts to interpret Parliament to the man in the street will lead to a better appreciation of an institution, sound at heart, and working as best it knows in our interests.

The Singapore Base

Continued from Page 1

NO THREAT AGAINST JAPAN.

Another objection is that the establishment of a naval base at Singapore is contrary to the spirit of the Washington Conference, and that it can only be regarded as a threat against Japan. To this it is answered that the Washington Treaty, which among other things prohibits fortifications in certain areas, was explicitly drawn so as to exclude Singapore from the sphere of this prohibition, and that Singapore is situated at such a distance from Japan that no reasonable mind could regard it as a threat against that nation. It has been said that if the comparative distances are taken into consideration it might just as well be argued that the fortification of Gibraltar could be regarded as

SHIPS USELESS WITHOUT A BASE.

a threat to the United States of America.

Finally the objection has been made that it is unnecessary to have a base in the East at all, but it is here that the supporters of the base find their strongest argument. They point out that a fleet is helpless without an adequately protected and equipped base in which it can in safety refuel, refit, and repair; that with the increase in size of modern capital ships and the alteration in their structure to provide protection against torpedoes (the "bulge") existing docks in the Pacific and in the East are unable to accommodate the modern capital ships.

They call attention to the startling fact that at present, and until

the Singapore base has been completed, British capital ships cannot in time of war operate in the Pacific at all.

The nearest suitable base is at Malta, some 6000 miles away, and should circumstances ever necessitate the defence by arms of the British possessions in the East, or in the Pacific, then the British capital ships now in commission might just as well, for all practical purposes, be laid up—they could render no assistance in these waters, and would represent in these circumstances so much useless expenditure and so much useless scrap iron.

They say, "If we are to have a fleet at all, and if that fleet is to contain, as it does at present, capital ships, then it is absurd that these ships should not be able to operate in any

portion of the world where British territory requires defence."

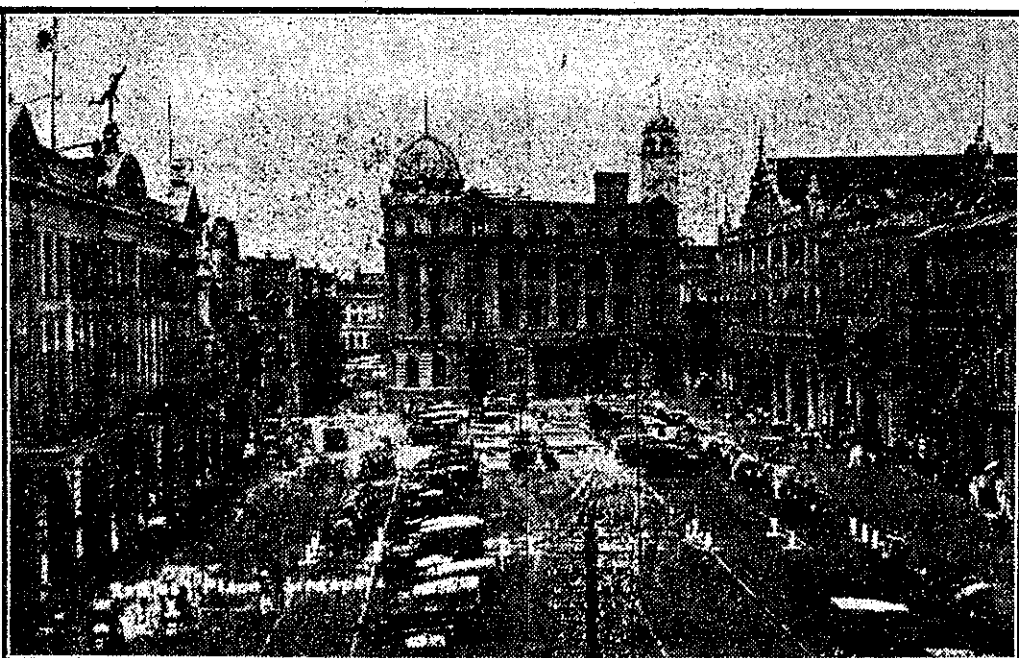
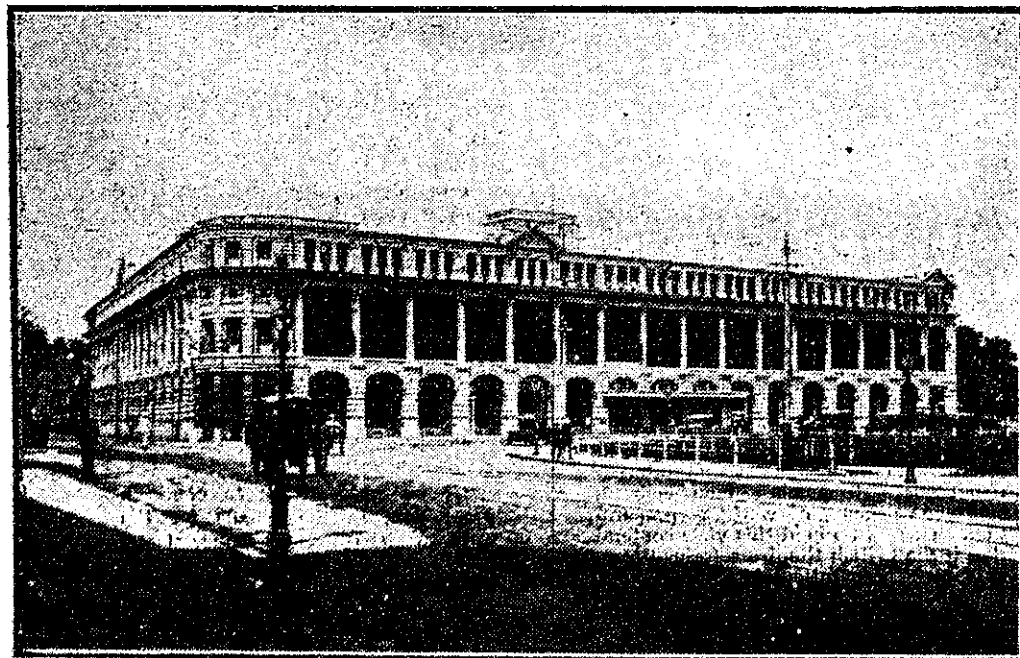
LESSON OF THE LAST WAR'S RAIDERS.

Let us conclude by quoting what Mr. Amery, then First Lord of the Admiralty, said as long ago as 1923: "One small German squadron beginning in the China Seas caused us infinite anxiety, and at one moment was in serious danger of affecting our whole strategic problem. Imagine a position in which von Spee's squadron had been appreciably stronger. Imagine it had been what the battle fleets of other great nations in these distant waters are—a mighty fleet comparable and even equal to our own. How could you then cope with such a situation except by being able to take out your battle fleets? It has been said that we have the command of all the seas. We have not."

We are not in a position to-day nor shall we be for many years to come to put a battle fleet into

the Pacific or even as far as Singapore.

In all these waters, with their immense consequences to us from the strategical point of view, and from the point of view also of the Empire of which we are the trustees and the main defenders, we are helpless, and reliant on the good-will of a friendly and lately allied Power. But no self-respecting Power can afford indefinitely to be dependent on another Power for its security and even its existence, and it is because we wish the Navy to be free to fulfil its historic function—to operate freely anywhere in the world and to operate with an additional freedom because we have so cut down the margin of naval strength—that these are the general grounds on which the Board of Admiralty have come to the conclusion that it is essential to develop—not hastily nor in any manner which would appear to aim to hit anyone—but steadily and surely to develop a base with which we can maintain the Navy in those waters."



Views of Singapore. On the left is the chief shopping centre, Raffles Place, named after the first Governor, Stamford Raffles. On the right is the Hotel de Europe, famed throughout the East for its "million dollar cocktail."

PRIVATE ENTERPRISE FAVoured

BY AUSTRALIAN COMMISSION

IMPORTANT DECISIONS.

The Royal Commission on Wireless, set up by the Commonwealth Government, after exhaustively discussing the question of Government control, has decided in favour of the retention of private enterprise, so that broadcasting may be developed along the lines already laid down. Government supervision is, of course, proposed, but not Government regulation and control.

No country in the world is more similar to New Zealand in conditions associated with broadcasting than Australia. The Commonwealth Royal Commission on Wireless has been engaged for many months investigating every phase of Australian broadcasting, and some dozens of witnesses of all shades of opinion have been examined by the commission. The commission has involved a heavy expenditure, but the object was worthy of this, in view of the tremendous influence exercised today, and the future possibilities of broadcasting. Now, the commission is definitely averse to the Government taking over broadcasting.

The decision of the commission will not come as a surprise to those who have given careful thought to the subject of Government-controlled broadcast stations. To those familiar with the general state of State enterprises it will be welcome news that the Commission recommends that this wonderfully popular form of public entertainment should continue under the present system of private enterprise. Any proposal that broadcasting should be a State monopoly prompts thoughts of a State vaudeville circuit, a State concert party, a State opera company, a State-directed piano or violin virtuoso, or coloratura soprano, and a State-owned newspaper.

There can be no two opinions as to whether the privately-owned stations, 2BL and 2FC, Sydney, and 3LO, Melbourne, are more liberal, both in the quality and the quantity of the entertainment and instructive matter broadcast than the State-owned 4QG, Brisbane. The enterprise of the Sydney and Melbourne stations mentioned is probably unrivalled in the world, considering the population for which they cater. Every possible avenue of entertainment, news, and instruction is explored, and the early morning till late at night sessions are evidence of great enterprise and managerial alertness. These stations, run under the red-tape, cut-and-dried methods of Government Departmental control, could never be expected to retain the standard now established by them. Visitors from America, Great Britain, and the Continent are marked in their praise of the enterprise of those three stations, made possible, of course, by their flourishing revenues. Listeners as a body would rise up in Australia if any attempt were made to supersede private control by Government control, so far as these three big stations are concerned. The standard attained, they say, could not be excelled, and there are grave doubts as to the fate of broadcasting if the Government took it over. There is a striking object-lesson to New Zealand in the decision of the Commonwealth Royal Commission on Wireless against Government control as a substitute for private enterprise.

AUSTRALIAN PROGRAMMES

MAILS DO NOT FIT IN

As announced earlier, we have been in touch with the Australian broadcasting stations with a view to securing their programmes sufficiently far ahead to permit of their incorporation in the "Radio Record." In practically every case our request was received with full courtesy, and all assistance possible promised. Programmes have begun coming forward to us, but, unfortunately, owing to the conflict between our time of publication and the arrival of the Australian mail, it seems unlikely that, as a general rule, we will be able to give our readers this extra service on any full basis.

We are compelled to close our paper by approximately 4 a.m. on Tuesday morning, and have the plates cast ready for printing on the presses of "The Dominion" immediately after that paper's morning edition is published. This means that our printing begins early Tuesday morning, and publishing follows at high speed in order to catch the day's mails throughout the Dominion and permit the "Record" to reach distant corners before the week-end with the programmes for the next week. Owing to pressure of other work in the printing office, it is impossible to delay our printing a day, apart from the fact that such a delay would occasion the missing of the mails for many districts.

The Australian mail steamer reaches Wellington as a rule in the forenoon of Tuesday, the mails being available in the afternoon. It will thus be seen that on present arrangements we miss by a few hours. We are going further into the matter with a view to seeing whether it would be possible for the Australian stations to give us a synopsis of the leading items of the week that we require in time for publication. There may be occasions when the mails will fit in, and our readers can rest assured that we will take full advantage of any such opportunity.

FADING INVESTIGATION

WELCOMED BY LISTENERS

We have been pleased to receive quite a number of expressions of approval of our proposed investigation into fading. Listeners generally welcome the proposition as one likely to give some valuable data on the subject. We are glad to say, also, that we have invoked the assistance, which has been very readily granted, of Mr. J. M. Bingham, engineer of 2YA. On the night chosen Mr. Bingham will make specially careful readings of all meters in relation to time, and those records will be available for examination in comparison with the records of fading sent in by listeners.

We are also endeavouring to arrange for a ten-minute talk, on the night of the test, upon the problem of fading, this giving the fullest possible scientific and technical explanation of the problem. The date of the test has not yet been arranged, but it will be announced as soon as possible.

"FADING"

The Editor, "Radio Record."
Sir,—All wireless workers are familiar with fading trouble when working with distant stations. From the home station it is unnoticed, therefore it is safe to look afield for the cause.

Various theories have been advanced, but as an old telegraphist I would like to recount some of the experiences affecting the telegraph system that have come under my own observation, by way of suggesting that our wireless broadcasting is also subject to similar influences. I refer to magnetic storms, originating in certain conditions of the sun, the presence of which are often indicated by the aurora borealis, or southern lights. A telegraph wire with its ends earthed at Wellington and Christchurch, carrying a galvanometer and battery, so that a constant needle deflection of, say, 30 degrees is made, will act in a curious manner on the approach of one of these magnetic storms. The needle of the galvanometer will every few minutes rise steadily to zero—sometimes beyond. In a few moments it will recede to its first position. These peculiar movements have sometimes started in late afternoon and lasted until midnight. My observation is that the time intervals covering the peaks of these movements agree with those noticed in wireless fading.

It is obvious that the galvanometer's deflection to zero is caused by an opposing current. In telegraphy this leads to serious interruption of traffic, and can only be obviated by substituting a second wire for the earth return. It should be stated that the telegraph system is subject to this form of interruption at much longer intervals—months often elapse—than in the case with wireless broadcasting, where it is usually of weekly occurrence. There is reason for this in the fact that the telegraph is only susceptible to magnetic storms of considerable strength, whereas wireless being extremely sensitive is influenced by sources of energy having no effect on telegraph apparatus. Readers of Arctic and Antarctic literature will have noted that aurorae are very frequently observed in polar latitudes—in fact, are of almost nightly occurrence. It may, therefore, be asserted that magnetic storms in varying strength are making their power felt; that their electrical energy is being broadcast through the ether, chiefly in longitudinal direction, with earth return; and that this energy—Nature's broadcast—meeting and opposing that directed by 2YA and his contemporaries, is the true source of fading trouble.

It would appear that no remedy is in sight.

It is interesting, however, in view of the fact that a return wire removes the interruption in telegraphy, to consider whether the provision of suitable counterpoises at the broadcasting and listeners' stations replacing the present earths, would have the right effect.—I am, etc.,

EX-TBL. ENGR.

SOME SUGGESTIONS

Sir,—I would like to increase by one the number of letters received by you in appreciation of "The Record." I consider it a splendid paper and have read each issue so far with keen interest and look forward to receiving my next copy. If the present standard is maintained I should imagine that every listener will become a subscriber.

Most radio fans seek to log stations that are "off the beaten track," and I suggest that you invite reports of listeners receiving distant stations and reserve a corner each week for the purpose of publishing these reports. This corner would, I think, receive its share of attention.

The quality of the programmes lately is on the improve, but the Broadcasting Company have a long way to go yet in this direction. I think more variety and the introduction of more humour would be welcomed by most of us. The first portion of the programme from 2YA on both the 6th and 13th inst. was enjoyed by all who I have mentioned the matter to.

May I advance a few suggestions in regard to other matters?
(1) Could not the gap between the close of the news session and the commencement of the evening session be filled in in some manner? If one settles down for the evening at the commencement of the news session this "break" in the programme is unwelcome, and, of course, all stations are silent at this time.
(2) A Sunday afternoon session would

SPORTING

NEXT WEEK'S FIXTURES

FOOTBALL BROADCASTS

Wed., Sept. 7.—Canterbury v. Manawhenua (If for Ranfurly Shield).
Sat., Sept. 10.—Auckland v. Otago, 1YA; Canterbury v. Wellington, 2YA.

The Wellington game will be rebroadcast by 3YA, if possible.

During the week the results of each day's play in the Golf Championships at Hamilton will be broadcast by all stations.

LISTENERS, NOTE!

NEW REGULATIONS

IMPORTANT CHANGES.

Some important amendments to the regulations governing the licensing of radio receiving, amateur transmitting and receiving, and experimental radio stations were published in the latest "Gazette."

The following classes of licenses may be granted: (a) Receiving station licenses—(i) Ordinary; (ii) special; (iii) temporary. (b) Amateur transmitting and receiving station license. (c) Experimental station license.

In the case of radio receiving stations in hotels, restaurants, places of amusement, or other places where the reception of radio communications is intended for a number of people, the license will be a special receiving station license.

In the case of radio receiving stations at showgrounds, exhibitions, and other places of a like nature, where the station is to be operated for a limited time, the license will be a temporary receiving station license.

Licenses for radio stations to be erected and operated by hospitals, schools, colleges, institutes, societies, and like bodies, shall, in accordance with the objects in view, be classified by the Minister in accordance with this regulation.

Portable or mobile stations are to be classified by the Minister, and will be subject to such additional conditions regarding field of operation, and the like, as the Minister may deem it necessary to impose.

In the event of a radio station licensed under these regulations being dismantled, or of a change being made in its location, the licensee shall, within seven days thereafter, notify the postmaster at the nearest postal money-order office, in writing, accordingly.

Where a radio station is to be erected and operated for a limited time the Minister may, at the written request of any person, association, or corporation, grant a temporary license in writing, authorising for a period to be determined by the Minister, the operations of such station in accordance with these regulations, and upon whatever terms, in addition to these regulations, the Minister deems desirable. The fees for such temporary licenses will be those prescribed by these regulations for temporary receiving station licenses.

Except where otherwise authorised by the Minister, every license, other than a temporary receiving station license, shall be in force from the date of granting until March 31 following, and may be renewed from year to year.

Fees for Licenses.

The license or renewal fees for each of the several classes of radio stations are as follow, payable in advance:

(a) For a receiving station license—(i) Ordinary, £1 10s. per annum; (ii) special, £5 per annum; (iii) temporary, 10s. per week.

(b) For an amateur transmitting and receiving station license, £2 2s. per annum.

(c) For an experimental station license, £2 2s. per annum.

The fee for the first year, or portion thereof, must accompany the application. For a period of less than one year the fee will be: (a) For a receiving station license—(i) ordinary, 2s. 6d. per month, with a minimum of 7s. 6d.; (ii) special, 8s. 4d. per month, with a minimum of £1 5s.; (iii) temporary, 10s. for each week of seven days. For a period of less than seven days the fee will be 10s. (b) For an amateur transmitting and receiving station license, 7s. 6d. per month, with a minimum of 10s. 6d. (c) For an experimental station license, 8s. 6d. per month, with a minimum of 10s. 6d.

If, in the case of renewals, payment of the above mentioned fees be not made on or before the due date, the license will automatically lapse.

The fee for a duplicate copy of license will be 3s.

find favour with listeners equally with weekday sessions, and I cannot understand why Sunday should be treated any differently in this respect.

(3) Am glad to note children's sessions will soon be held nightly from each station; catering for the children will please everyone. Six o'clock, too, is a good time to commence. The average present children's hour wants a lot of "gingering up." It does not seem to have enough life in it somehow, though the session from 3YA on the 22nd inst. left little to be desired.

(4) Am pleased to learn that 2YA are installing a short-wave receiving set with the view of treating listeners to items broadcast from London, How-

SHAKING HANDS

CRITIC AND COMPANY

"EVERYTHING IS CHANGED."

One of the few critics who were not afraid to write direct to the company—and sparks flew from the crossed swords—now writes in the following strain a very chivalrous appreciation of what the company is doing and intends to do:

"Congratulations are owing to the directors of the Broadcasting Company upon the new policy so rapidly developed during the past few weeks.

"Previously the company appeared to be quite out of touch with listeners, and little or no information was available. This difficulty, it is to be feared, was primarily responsible for most of the dissatisfaction, often expressed rather vehemently.

"I venture to think that if the public had been taken a little more into the confidence of the directorate, most of this would have been avoided. I fully realise that a few individuals alone had made themselves financially responsible, and thus, 'having paid the piper,' were, perhaps, justified in 'calling the tune.' But the attitude of the public was, and is, that broadcasting can only be regarded as a public utility service; they were paying their license fees—more or less—and had a good deal of justification for their demand for information. The dictum of the Post Office officials, that everything was quite all right, only made matters worse! If everything was satisfactory, why be secretive about it, was the obvious reply!

"Now, however, everything is changed, and most reasonable-minded listeners are convinced that much brighter prospects are in store for broadcasting generally, as it is now evident that the directors are fully alive to the extreme importance of a satisfactory service.

"The manner and extent to which listeners have now been given full particulars as to the general policy of the company, and the evident desire of the directors to generally improve the service, will go far to abolish any hostility in the minds of all fair-minded persons.

"It is recognised that all persons cannot be pleased with all the programmes. The grumbler who cannot get sufficient jazz, or enough church services, we shall always have with us. He flourishes and grumbles in all countries.

"The new publication, 'Radio Record,' is a most excellent idea, and the fair-minded tone of the first two numbers, and the abundant information given therein, is worthy of high praise.

"I might suggest, perhaps, that the technical amateur is—by far—the greatest 'booster' of radio. I think I may call myself by that term, and I have roped in ten recruits thus far. Technical articles please the technical amateur best, and I am glad that the new paper has started well in this respect—may it go further!

"In common with many other people I am not in favour of the control of broadcasting passing into the hands of a Government Commission. The bureaucracy is too numerous in New Zealand already, and a Government Department in charge of radio would lead only to stagnation and the customary sheltering behind officialdom.

"Far better for the control to remain in private hands, now that we know, and appreciate, the forward enlightenment policy aimed at.

"In conclusion, I would wish to state that, at various times, I, in common with others, have used hard words concerning the directorate, based principally upon a feeling of utter impotence in the face of silence. I unreservedly admit, as I am sure will many others, that this attitude was based upon a misapprehension and a lack of knowledge of the real state of affairs, which had been, unfortunately, kept from us.

"With a spirit of cordial criticism I have no sympathy. The difficulties of effective management, with the limited financial resources of the company, must be very great."

MR. GREY'S RECORD

Considerable interest has been evoked in the record set up by Mr. Claude P. Grey, of which an account was given by us last week. We had hoped to have a photograph of Mr. Grey for this issue, but it has not come to hand. The set used by Mr. Grey is, we understand, a Radiola 20.

TIME IN INDIA

In last week's issue, the time chart showed a general time for India. In practice, however, Bombay time is half an hour behind that of Calcutta. Therefore, when it is 8 p.m. in Calcutta it is 7.30 p.m. in Bombay.

One shilling (Austrian) per hour is the charge for listening-in on the Austrian express trains, to and from Vienna, under a new arrangement made by the Austrian Railways Company. The sets used are of sufficient power to bring in the principal European stations.

ever, it is not necessary for the company to wait for this station to open at the end of the year. Why not make a start now by rebroadcasting PCJJ 2XAF, etc.? Am sure this innovation would prove of great interest.—Yours, etc.,
G.C.H.

RANFURLY SHIELD

CANTERBURY'S CHANCES

UNIQUE POSITION IN RUGBY

Listeners who heard the description of the last Ranfurly Shield match, Hawke's Bay v. Wairarapa (which, by the way, has now become historic in more ways than one) will be pleased to know that the Broadcasting Company is making every effort to broadcast a description of the game Canterbury v. Manawhenua, to be played at Palmerston North on September 7, provided the match is for the shield.

The position in regard to this game is almost unique. It will be remembered that while the dispute between Hawke's Bay and Wairarapa was subsiding, Manawhenua provisionally challenged Wairarapa; this challenge was accepted, and Manawhenua won by 18 points to 16. Thus Wairarapa's winning of the protest availed them nothing, as the shield was automatically passed from Hawke's Bay, who lost it on the protest, to Manawhenua. In the meanwhile Taranaki provisionally challenged Hawke's Bay, and this game ended in a draw, 5 points all.

What was expected to be the piece de resistance of the Rugby season, the meeting of Hawke's Bay and Canterbury for the shield, will not therefore come to pass, but Canterbury will play Hawke's Bay in the actual course of their tour, though there is no shield at stake.

Canterbury fortunately had included a game with Manawhenua on their tour, though they had omitted a fixture with Wairarapa, so Canterbury have a second string to their bow in their attempt to capture, for the first time, this coveted trophy.

But, lo, at the time of writing there is still a nigger in the woodpile, and that is the fact that Manawhenua have to defend the shield again twice before they meet Canterbury. The two contenders are Taranaki and Wanganui. It is felt that there will not be Dominion-wide interest in these games, as neither of these contenders have any real claim to the premier position in New Zealand Rugby for 1927. It is extremely doubtful which province is the strongest in the North Island, and the claims of Auckland, Hawke's Bay and Wellington are all freely canvassed. There is not much doubt, however, that Canterbury is the strongest South Island side, and for that reason if Canterbury meet Manawhenua this game should decide the resting place of the shield for the season 1927. If Manawhenua win, Canterbury's will be the last challenge this year.

The shield is reported to be badly affected by the borer, and in its present old age it seems cruel that it should pass through such a hectic season! Hawke's Bay held it, Wairarapa beat them for it on June 3, Hawke's Bay defeated Wairarapa on July 9 and took the shield back to Napier, only to have to pass it back as mentioned earlier.

Manawhenua, Taranaki, Wanganui or Canterbury will eventually hold the shield for the season, and a few lines in passing about the above teams' performances in representative football this season might be interesting.

June 3—Wanganui (16) lost to Taranaki (20).
July 30—Wanganui (25) beat South Canterbury (6).
August 13—Wanganui (14) lost to Southland (19).
August 24—Wanganui (6) drew with Hawke's Bay (6).
June 3—Taranaki (20) beat Wanganui (16).
July 6—Taranaki (11) lost to Wellington (15).
July 27—Taranaki (5) drew with Hawke's Bay (5).
August 3—Taranaki (27) beat South Canterbury (9).
August 13—Taranaki (0) lost to Auckland (23).
August 17—Taranaki (6) lost to Wairarapa (19).
August 20—Taranaki (3) beat Otago (9).
August 21—Taranaki (23) beat Southland (18).
July—Manawhenua (3) lost to Wairarapa (23).
July 27—Manawhenua v. Maori Team—draw.
July—Manawhenua (18) beat Wairarapa (16).
July 30—Manawhenua (0) lost to Hawke's Bay (16).
August 17—Manawhenua (8) beat King Country (6).
August 20—Manawhenua (0) lost to Auckland (17).
August 24—Manawhenua (3) lost to Waikato (17).
August 20—Canterbury (11) beat Southland (0).
August 27—Manawhenua (23) lost to Wellington (14).

*Denotes home team.

It will be seen that Taranaki and Manawhenua have both been well beaten by Auckland. Taranaki beat Wanganui, and Canterbury have only played one game.

Taranaki will have met Manawhenua at the end of a long tour, and this will be against their chances.

Wanganui have not toured, but do not appear to be good enough to win the shield. Canterbury meet Manawhenua on the second game of their tour, though after a stiff game with Hawke's Bay at Napier.

If the Canterbury-Manawhenua match is for the shield the game will be described by the same announcer who officiated at Masterton, and listeners should get a good idea of the match from listening in on September 7.

THE NEW ZEALAND Radio Record

PUBLISHED WEEKLY.

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

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SUBSCRIPTION RATES.

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ADVERTISING RATES.

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

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

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

A. J. HEIGHWAY,

Managing Editor,

"The N.Z. Radio Record,"

P.O. Box 1032.

WELLINGTON.

WELLINGTON, SEPTEMBER 2, 1927.

On Tuesday of last week the "Radio Record" was the subject of attack by the Labour Party in Parliament, Mr. H. E. Holland in particular excelling himself in the things he said. On noticing the Press reports we wrote Mr. Holland on Wednesday as follows:—

"I notice from this morning's "Dominion" that some complimentary attention has been devoted to the "Radio Record" by your good self.

"Without knowing the exact incident to which you refer, I am still prepared to give your statement that we published a "deliberate lie" a flat denial. If any inaccuracy has appeared in our columns, either in the news columns, based upon newspaper reports, or editorially, we are quite prepared to make the necessary correction; but I would ask you to accept our assurance that no inaccuracy has been deliberately published. That is quite apart from our practice or policy, and for it to have been suggested that such was done deliberately is in my opinion ungentlemanly and definitely untrue."

So far we have not received a reply from Mr. Holland, and at this writing we are still ignorant of the grounds upon which Mr. Holland thinks himself justified in descending to the level he did. We do not claim any immunity from the possibility of error, and if error has occurred in our columns, either in our report of Parliament's proceedings or in what we consider perfectly fair and justifiable comment upon those proceedings, we will be happy, on proof being given, to make the necessary correction. From the reports of Mr. Holland's latest outburst, we are unable to determine where his complaint lies. So far as his allegation is concerned as to our having perpetrated an untruth deliberately, that remark can be flatly contradicted. We invite Mr. Holland to either justify his statement or apologise.

Mr. Peter Fraser joined his chief in the attack, and sought to make political capital out of the dual editorship of the "N.Z. Dairy Produce Exporter" and the "Radio Record." An extraordinary inconsistency and confusion of thought seems to characterise the observations of this group of members of Parliament upon wireless and associated matters. In his remarks Mr. Fraser alleged, first, that the "Exporter" had been used by the Government as a party journal prior to last election. Next, he complained that it had been used to attack the Government. Exactly where does Mr. Fraser stand in the matter? The truth is that the "Exporter" has been perfectly independent, and never has at any time been used politically either for or against the Government, or the Labour Party. Criticism has on occasion been directed against both, and doubtless will be again. At the last election period those responsible for the Reform Party's campaign recognised the extraordinary advertising value of the "Exporter," with its circulation of approximately 60,000 copies, reaching all dairy farmers' homes throughout the Dominion, and inserted a number of full page advertisements which were duly paid for in hard cash. The same privilege was open to the Labour Party, and if the Labour Party intends next election to follow the lead in publicity given them by the Reform Party, we would take the opportunity of putting a word in now on behalf of the "Exporter." Mr. Fraser, we believe, holds the purse-strings of the Party, and will realise that he can spend its money in no better direction, or secure better advertising value.

Humour apart, however, Mr. Fraser's allegation is utterly unfounded. The "Exporter" editorially has been perfectly independent, and will remain so. Its function is not a political one at all, and even in relation to the outstanding contributions of "Economist"—who wields the best informed and most trenchant pen on economic matters in the Dominion to-day—his articles have been equally independent. He has on occasion subjected the Government to very well informed and sound criticism on financial matters—so much so that the Minister of Finance, in his pre-sessional policy speech at Feilding, paid "Economist" the unique compliment of singling his observations out from those of all other Press writers, by replying to them in detail. Mr. Fraser will probably recall that thereafter "Economist" very effectively traversed the Minister's statement, and proved his original contention. Mr. Fraser's charge against the "Exporter" is quite baseless.

We can also emphatically deny the observation that the "Record" has "frankly indulged in propaganda against the Labour Party." That is not so. We have criticised the observations of certain members of the Labour Party in relation to broadcasting, but we have made no other comment upon the Labour Party's policy, and are not, in this field, concerned in the slightest degree with it. We are perfectly entitled to express our views upon the comments made in Parliament by the Labour Party upon broadcasting matters, and the thin-skinned and petulant complaints of Mr. Fraser and his confreres will not deter us from doing so. Mr. Fraser says we are out to boost broadcasting. He

is awarded top marks for his perspicacity. That is exactly our function—to serve broadcasting and give listeners essential information of value to them.

From the listener's point of view, what good purpose has been served by this carping Parliamentary criticism of the Government loan? It would almost seem that this undue attention to broadcasting is a confession of the Labour Party's inability to find anything to talk about. Listeners are concerned to secure the best possible station, and the best possible programmes for their delectation and entertainment. When the Government wisely conceived the idea that it would be advantageous to have a high-powered station at Wellington, in order to have a daylight range over the whole Dominion, and a night range over the whole Pacific, and approached the company to that end, the company rightly enough pointed out that such an extension of the original commitment of £20,000 would require a revision of the financial arrangements. In that revision the company, from its own strength, extended its obligation from £20,000 to £35,000, and the Government advanced on suitable security the £15,000 in question, to permit of the completion of 2YA on the high-powered basis desired.

From the listener's point of view the Government is wholly to be commended for giving the financial assistance necessary. As a result, listeners have secured better service without any increased license fee, more listeners have been attracted, so that the revenue available for programmes has been enlarged, and as a consequence a general forward movement for the betterment of the broadcast service has begun. The whole atmosphere in broadcasting circles has changed for the better in the last two months, and this has its foundation in the opening of 2YA on the basis made possible by the Government's financial provision. The advantages of 2YA that we have enumerated are quite apart from the extra asset that this station represents in the case of national emergency.

We cannot see that the Labour Party, in their excess of criticism on this feature, have rendered any service to listeners or added to their own credit or reputation. The debates have been of a distinctly carping nature, and there is at least ground for the suspicion that their attitude has its base in the dairy control controversy, and the Labour Party's resentment of Mr. Goodfellow's necessary reminder to the farmers of the country of the Labour Party's attitude to the method of election, and the consequences thereof. If that is so it hardly seems cricket to make broadcasting the stalking-horse for political revenge.

ACROSS THE ATLANTIC IN A COCKLESHELL

FAMOUS FEAT OF 56 YEARS AGO TO BE TOLD FROM 3YA

When Captain Hayter and his mate were drifting slowly over the Atlantic in their 1½ ton boat, a prey to wind and tide for 92 days, Captain Hayter little thought then—fifty-six years ago—that there would come a time when airmen would fly across like birds, and that he would be telling the people of a new generation by means of the most wonderful discovery of the age, radio, of his wanderings half a century previously.

who, in a cockleshell of a boat, braved the "Roaring Forties" and crossed and recrossed the Atlantic? Such a feat was accomplished in 1871. It is a long way to go back—fifty-six years—but 3YA has found one of the two men who caused the sensation in 1871, and he will tell on the radio his recollections.

The "ancient mariner" is Captain Hayter, of Redcliffs, Sumner, where, by the way, he first saw the light of



Captain and
Mrs. Hayter.
Captain Hayter, on
Wednesday,
September 7,
will tell from 3YA
how he crossed
the Atlantic in
a cockleshell
56 years ago.

Deeds of bravery, like other things, are judged by the standard of the time. Recently the men who flew across the Atlantic Ocean were acclaimed as heroes. They were the first men to succeed in overcoming the risks inseparable from such an undertaking. But how does their bravery compare with that of men

day 15 years ago, the first white boy to be born there. It has been only after much persuasion that the old seaman has consented to tell of a feat unknown to the present generation, and long forgotten by old people who ever knew about it.

The address is to be given on Wednesday, September 7.

DANGER TO LOUD- SPEAKER

OVER 110 VOLTS RISKY.

Radio dealers in New Zealand sometimes have loudspeakers brought to them with the wiring of the coils burnt out. This is caused by using too high a plate voltage (from the B battery) without connecting a siftron or other choke and condenser device, or transformer, between the loudspeaker and the set when more than 110 volts is fed from the B battery.

Ever since the advent of the power valves of the 112 and 171 type for use in the last stage of audio-frequency amplifiers, there is an attendant danger that some damage may be done to the windings of the loudspeaker, unless some protective device be inserted in the output circuit of the power tube. The plate voltage required by these tubes is anywhere from 135 to 180, and, in the majority of cases, such a voltage flowing through the loudspeaker windings will burn them out, or cause some other damage.

The protective device mentioned above generally takes the form of either a 1:1 ratio transformer or an audio-frequency choke coil, with a large fixed condenser placed in the plate lead of the power tube. By either of these means the high voltage is supplied to the plate of the tube without passing through the loudspeaker coils.

£37 10s A MINUTE

Jascha Heifetz, the eminent violinist, was offered £750 by GLO, Melbourne, for a broadcasting performance of 20 minutes—£37 10s. a minute. His contracts compelled him to refuse. He wrote to the company as follows:—"I wish to acknowledge your offer for broadcasting, but I must reply, as I have in the case of other companies, by advising you that by the terms of my contracts, my playing is not to be broadcast. Thanking you for your substantial proposal, which, I regret, I am not in a position to entertain."

RELAY STATIONS

WHAT ABOUT ROTORUA?

CENTRALLY SITUATED FOR RELAY PURPOSES.

A suggestion has been made by a New Plymouth society that a relay station should be established in New Plymouth, for the benefit of Taranaki listeners, and that as a preliminary the power of 1YA, Auckland, should be quadrupled. There is a kernel of merit in this suggestion, but it is obvious that there are a number of factors to be considered, such as, first, finance, and, secondly, situation.

From the broadcasting point of view, New Zealand is a particularly difficult country to handle. It is a long, narrow country, so that the stations, wherever situated, are certain to lose a great deal of power by unprofitable diffusion over non-paying areas such as the sea. It is safe to say that, from a money-earning point of view, Auckland is only 20 per cent. efficient, because, situated on a narrow isthmus, 80 per cent. of her power must be diffused over water areas on which listeners do not thrive and are not thickly located. A relay station at New Plymouth would be open to substantially the same objection.

Our suggestion for increased efficiency to listeners of the North Island would be, neither the quadrupling of the Auckland nor the provision of a relay station at New Plymouth, but a relay station at Rotorua.

This would have the advantage, in our opinion, of avoiding any disadvantages there may be of the association of broadcasting stations in cities, and would place a station in the centre of a large land area, reaching easily into the Bay of Plenty, Hawke's Bay, the thickly populated area of South Auckland, and New Plymouth and Taranaki, as well as the northern area of Wellington Province.

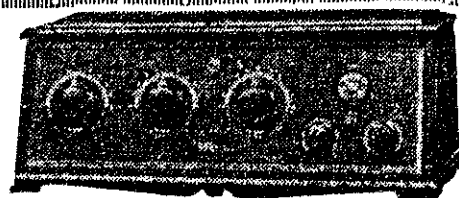
It would also have the advantage of making regularly available such attractive items as the Maori concerts. Every visitor to Rotorua knows the appreciation extended to the fine native concerts that are there available. The opportunity of putting upon the air this feature would, we think, constitute a very definite advantage. A satisfactory land line could also be arranged between Hamilton and Rotorua, to secure the cream of the talent available there, and the same extension could ultimately be made to Auckland, from which higher-powered station Rotorua's booming haka could be scattered over the Pacific.

As opportunity offers, we have no doubt that the Broadcasting Company will give consideration to the provision of such enterprises, but it is obvious that an essential preliminary must be an increasing revenue from a larger number of listeners, in order to meet the demands for such extra service. Listeners generally, we think, will be serving their own interests, as one correspondent phrases it, by "spreading the gospel" more generally. There is nothing so infectious as enthusiasm, and a different mental attitude in some quarters would, we are satisfied, have a very beneficial reaction in radio circles generally, increase listeners, and the possibilities of trade and the steady betterment of programmes.

BUSINESS FORECASTS

A PLAN IN PROSPECT.

Mr. A. R. Harris, general manager of the Radio Broadcasting Company, was in Wellington last week, and in the course of conversation gave an indication of some of the plans in prospect for future development. Some of these require further investigation before publicity can be given to them, but one feature mentioned will be of interest to business listeners. It is recognised, indicated Mr. Harris, that the soundest business life of a community is based upon the diversification of interests. Such diversification is in turn built upon knowledge of the probable course of markets and events. All business decisions are based upon individual judgment, which in turn can be exercised only in relation to the information available. With this thought in view, he considered it would be of service to secure, if possible, leaders of the business, banking and commercial world to periodically make available over the air their view of the probable course of markets and events of the succeeding few months. The business atmosphere was rooted, not only in physical facts, but also in the mental attitude to those facts or expectation of them. If the business judgment of men of the calibre he had in mind could be made available in this way to the whole community, it was likely, he thought, that many irrevocable decisions made by men of less experience might be avoided or made to better advantage. Some approaches had already been made in this direction, and it was hoped that a successful scheme would be evolved.



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2YA IN AUSTRALIA

GOOD RECEPTION

APPROVING COMMENT

NEW ZEALANDERS OVERSEAS.

The last Australian mail brought much interesting matter regarding 2YA.

One ex-New Zealander wrote:—Having heard a programme from your station on the evening of July 18, I desire to express my sincere appreciation of the same. It was picked up on a five-valve set in Mullumbimby, which is a small town about 500 miles north of Sydney; almost on the Queensland border. The sounds of the human voices were wonderfully clear and distinct, especially one song, "Echo," every word of which could be heard as distinctly as if the singer were in the room. As our hostess was tuning in at the moment the name was announced, I did not catch the name of the singer. The chimes of the clock tower were also very distinctly heard, striking the hour of nine, which was equivalent to half-past seven by our time here. Having been a resident of Christchurch from 1904 to 1922, it was doubly interesting to me to have picked you up, and so clearly, in this far-off Australian town.

Brilliant Results.

Another man said:—I am writing these few lines to let you know that your station, 2YA, is being received here quite as well if not better than any of our Australian stations. After listening to the whole of your programme which you put on the air last night, I must say that I fully enjoyed listening to it, and was amazed to think that the station from New Zealand should give such brilliant results. I have a five-valve receiver, and can get you as well on three valves as the leading local stations. I presume that your station has only recently been opened because I got you for the first time last Thursday night. Further, I presume you are transmitting on a fairly high power considering the strength it comes in.

"Very Clear Transmission."

"We have recently been listening," said another letter, "to your wireless and were very pleased with the excellent transmission. Last Sunday evening was the first time we heard your programme, and it was so very clear and the volume was very nearly as great as our Australian stations. It was too loud to listen to the full volume. We had to tune it out a little. On Tuesday evening we heard your clock strike nine and ours struck just after, half-past seven. It seemed strange to think how much difference there was in our times. We always enjoy listening-in to your broadcasting, and look forward to your nights of transmission. I felt as though you might like to know of anyone from New South Wales who listened to and enjoyed your wireless. On Tuesday and Thursday nights the music was very clear and sweet, and we enjoyed it very much. Hoping you have the best of success, and that we have many, many more enjoyable nights listening to your wireless transmission."

Congratulations.

From Huon (Tasmania) comes this: "I could not let this evening pass without congratulating you on your wonderful new station. Your transmission has been received here exceptionally well during the past few days, both as regards clarity and volume, but to-night your transmission is rolling in, and is beautifully clear. Using a regenerative neodyne, the loudspeaker rattles with the rheostat halfway on, and I consider your station to be one of the best in Australia and New Zealand. Wishing your station all the success it deserves."

Another Tasmanian listener wrote: "If you continue to send out such good music, your station will easily become most popular with all listeners-in who can reach you."

Referring to the reception of 2YA, a Victorian listener-in says:—"It came in at full-speaker strength. I call it full-speaker strength when one can distinguish what is being said at about 50 yards from the speaker."

From 2500 Miles.

"I thought it may interest you to know that I received your station here, about 100 miles south-east of Perth, last night, at 5.45, Perth time," runs another nice letter. First a violin solo by Mr. Rogers, "Ave Maria," and at 5.50 a dramatic recital from Sir Gilbert Parker's book "The Adventure of the North" by Mr. Calford Bell. I closed down then for tea, and you were off the air when I reopened. The announcer was perfectly clear, also the music—no blurring whatever. Of course there was fading, but no more than is noticeable on any other east-

ern State station. What I cannot understand is, my papers state that you are only 500 watts, while they give 72L, Hobart, 3000 watts. Now 72L I find almost impossible to hear, although their carrier wave is always on the dial. The set is nothing to write home about."

The same letter added: "It may interest you to know that I received your station last night on three 1-volt valves. The transmission came in very clear, in fact, as good as I have had from anywhere, and the fading was almost negligible. The volume was good enough to loudspeaker on four valves. I tuned in about 5.35, Perth time. I then closed down for tea. You can take it from me, in future our tea will not be consumed in the garden."

Seven Years in Wellington!

"We listened in to your station last Saturday night; it was beautiful and clear. We could hear every word that was said quite plainly. We were also listening in on your first night and heard station 2FC, Sydney, congratulate you. I spent seven years in Wellington, and listening to your station took me back there."

2YA IN CALIFORNIA

NOTES OF RECEPTION.

By courtesy of the Secretary to the Post and Telegraph Department, we have received the following detailed report sent to the Resident Agent for New Zealand, San Francisco, from a listener at Santa Cruz, which is about 100 miles south of San Francisco:—Mr. Stephenson Smith, 311 California Street, San Francisco.

Your name and address were given over Radio Station KPO, and I'm writing you in regard to the new station in Wellington, New Zealand.

"Congratulations to the new station. I tuned in at 12.30 Saturday morning and heard, I think, most of the programme until about 4 a.m. Pacific time. It was a very fine programme, too; 12.30 to 12.45 a gentleman was talking, but I could not distinguish the words, as it was a little faint.

12.45 Lady soprano—faded 12.50. 12.55 Gentleman talked—faded. 1 to 1.5 Violin and piano—faded.

1.10 Gentleman talked—faded. 1.20 Gentleman sang. 1.30 Violin and piano. 1.40 Lady sang with piano acc.

1.45 Station announced. 1.55 Band played—faded. 2.10 Violin and piano acc.—Very plain at 2.20, then faded.

2.25 Gentleman sang with piano acc.—It came in so clearly I heard the applause for this number. Then the station announcement.

2.30 Band played.—Came in very well.

Then a lady sang. Someone tried to "tune" in and about ruined the reception of this number.

2.45 Some sort of stringed musical instruments. Sounded like a steel guitar and uke. Was very pretty music. Then a lady soprano.

3.00 Violin and piano. 3.10 Gentleman sang.—Someone "tuned" in again and ruined the reception of this number, too.

3.20 Piccolo solo with piano acc.—Very nice.

Then came the station announcement, as clear as I've heard.

3.40 The band played again and that was all I heard. I listened until about 4 a.m., Pacific time. I certainly enjoyed the very fine programme.

With best wishes, I remain, cordially, Ida M. Stack, 24 Locust Street, Santa Cruz, California."

The Resident Agent, Frisco, also reports that station KPO, states that advice has been received that two additional private stations heard the programme, one listener stating that he distinctly heard and recognised the first three bars of "God Save the King."

FRISCO HEARS 2YA

RECEPTION VERY CLEAR.

The San Francisco "Chronicle" of July 23, 1927, has this to say of 2YA's opening and early days:

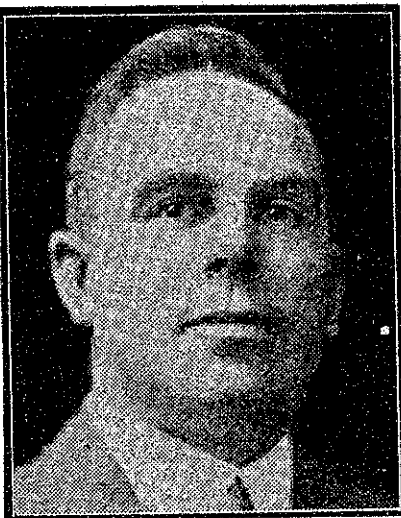
Loudspeaker reception early Sunday morning of the newly erected 5000-watt broadcasting station, 2YA, of Wellington, New Zealand, was reported during the week by Edward Manning, operator KPO, an ardent "D.X." listener. According to Manning, the New Zealand station was picked up on a wave-length in the neighbourhood of 420 metres at 1.40 a.m. Sunday morning.

Band music and a group of tenor solos were heard with good signal

COMING FEATURES

LECTURES ON BOOKS

Mr. H. C. South is commencing a series of fortnightly lectures, at 2YA on October 4. His talks are to be on "Books—Wise and Otherwise." Mr. South is President of



—Photo, S. P. Andrew.

the New Zealand Booksellers' Association.

SIR FREDERICK CHAPMAN.

A lecturette by Sir Frederick Chapman, ex-Judge of the Supreme Court, is to be given at 2YA a few weeks hence.

strength. At times, Manning said, the New Zealand station came in as loud as some of the American stations.

Reception of 2YA is being reported by many local D.X. listeners as being very clear. The station is usually heard about 2 o'clock in the morning.

A HONOLULU CRITIC

PRaise FOR 2YA.

Writing from Honolulu to report on how 2YA was getting on over there, a correspondent praised the new station and incidentally said:

"Your technical staff are apparently much superior to the Australians, as their stations all seem rough and under-modulated, their carrier waves having distinct A.C. roars."

IN THE PACIFIC

What Papua Thinks.

An erstwhile Wellington resident, now in Papua, reports on how he hears 2YA. He states that it "comes in more volume and greater clarity than 3LO or 4QG." He describes the reception as "wonderful loudspeaker strength."

Another resident of Papua, a missionary, reports on the opening concert at 2YA:—"The items came through very clearly indeed. I have heard tests of several stations trying new transmitters and also opening nights, but none has anywhere nearly approached your Saturday's transmission for clearness."

A Queensland View.

A Queensland writer says:—"The particularly fine standard of music selected for a Sabbath day appealed to me, especially after the piffle one is forced to eat out here on Sunday nights. However, this is merely by way of contrast, as I am not obliged to listen in to anything I don't like."

Victorian Reception.

A Victorian listener wrote recently to 2YA:—"A party of six including myself, had the great pleasure of listening in to your programme of music on Sunday night last. We were so delighted with it that I thought I would write and tender you our heartiest congratulations for the very pleasant hour we spent listening to same. We heard every item very clearly. I would like especially to congratulate the Tramway Municipal Band for its very fine performances. I do not think we have its equal in Victoria. The party will have the pleasure of tuning in again at a Sunday evening."

NOTICE

TO AUCKLAND LISTENERS

Mr. R. A. Gummer, Iron-monger and AMRAD dealer, Queen Street, Auckland (next "Herald" building), has supplies of the Radio Record (including back numbers so far as they are available).

Subscriptions may be placed with him for the regular receipt of the Record: 10/- per annum paid in advance, or 12/6 booked.

GREAT RADIO CONFERENCE

NEXT MONTH IN WASHINGTON

A correspondent writes to the "Radio Record" from Washington, U.S.A., under date of July 5, as follows:

"New Zealanders, in common with the folk of many other lands, will be affected by the results of the great International Radio Telegraph Conference, which will open at Washington on October 4. Wave-lengths of ship transmission will come under review, and those who find the ship morse interfering with broadcast reception, such as occurs in New Zealand, can hope for some relief from the deliberations of the conference.

The largest delegations so far chosen are those of Great Britain and Italy, both of which nations recognise the vital importance of radio telegraphy in modern communications between nations. Great Britain will be represented by a delegation of twelve representing the Post Office, Board of Trade, Admiralty, War Office and Air Ministry, while Italy plans to send nine wireless experts to the conference.

Great Britain will be represented by Colonel T. E. Purvis, F. W. Phillips, A. J. Waldegrave, F. Loring, R.N., Inspector of Wireless Telegraphy; E. H. Shaughnessy, O.B.E., Assistant Engineer-in-Chief, and J. Loudon of the post office; C. H. Boyd, Mercantile Marine Department, and Commander E. C. Travis of the Board of Trade; Major F. W. Home, R.N., head of the Wireless Telegraphy Board, and Commander Money, R.N., of the Admiralty; Captain A. L. Harris, M.C., of the War Office, and Air Commodore L. F. Blandy, C.B., D.S.O., of the Air Ministry.

It is reported here that Mr. A. Gibbs, chief telegraph engineer for the New Zealand Government, who is administrative head of radio in New Zealand, will also attend the conference. Mr. Gibbs should be able to provide a most interesting account of the transactions at the conference on his return to New Zealand.

Up to the present the following other countries have signified their intention of being represented at the conference: Argentina, Belgium, Chile, China, Costa Rica, Dominican Republic, Egypt, Finland, Honduras, Hungary, Italy, Mexico, Monaco, Netherlands, Nicaragua, Norway, Peru, Portugal, Rumania, Siam, Sweden, United States and Venezuela. Several other countries, it is expected, will also send delegates.

OFF THE AIR

2YA'S POWER LINE BREAKS

When a broadcasting station is in full swing, when everyone for hundreds of miles around is listening to a voice that seems to be speaking in the very room, there would seem to be no more powerful means of communication. But once the source of power for the station is cut off there is nothing more helpless than that same station. Its voice has been such an annihilator of distance that there is nothing else that can take its place, and a station with its electric power cut off is inarticulate and dead. That is what 2YA was last Tuesday week, and it could not tell people what was wrong, which was what everyone wanted to know.

From 9 o'clock till after 9, the telephones in the office were ringing continuously. The attendants answered in relays. They gave every inquirer a brief reply, hung up the receiver, unhooked it again at once, answered the next inquirer, rehanging the receiver and so on. There were hundreds of inquirers up to nine o'clock, at which time 1YA was able to send out a message explaining the misfortune that had happened to 2YA.

A broken power line to Mt. Victoria was the reason for the silence of 2YA. The Electricity Department of the Wellington City Corporation rang up 2YA just before the afternoon session was to commence and advised the station of the mishap. Strenuous efforts were made to repair the damage but at 9 o'clock it was realised that the work could not be done till next day. Next morning repairs were effected.

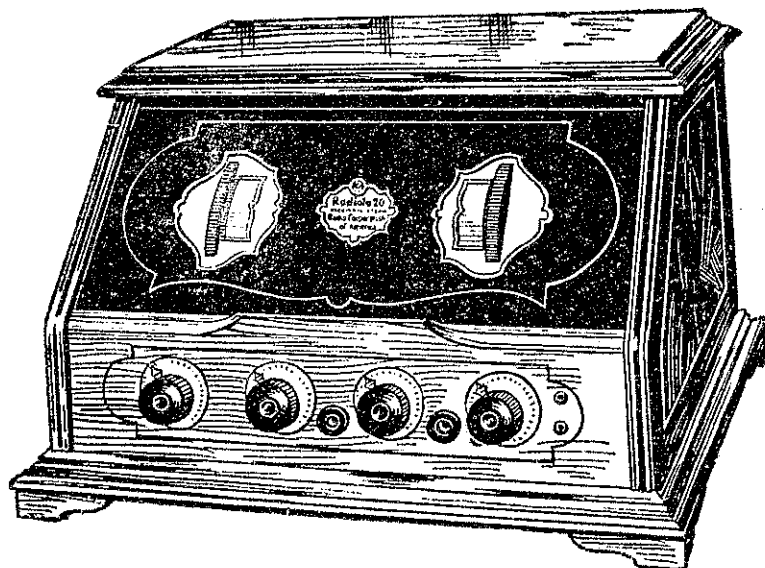
It is unlikely that such a catastrophe will occur again for it is the intention of the electricity department to set up an emergency line for another sub-station.

The artists engaged for Tuesday's concert waited on in hopes that the station would get on the air, and when it was found that this was impossible they all expressed their willingness to perform next day, which is usually 2YA's silent day. It was an action on their part which the Broadcasting Company and listeners greatly appreciated. This information was broadcast from 1YA.

One touch of irony about the contretemps was that during the afternoon there was to have been an address on cooking by electricity. This was postponed for a week.

The cause of the mishap was a boy with a pea rifle who "noted" one of the insulators on the power line.

Radiola 20



The Supreme 5 Valve Set

It is a balanced, tuned radio-frequency receiver with the additional feature of variable regeneration in the detector circuit.

Radiola 20 uses power Radiotron UX.120 in the last stage of Audio to provide full undistorted volume. By means of its special circuit Radiola 20 does the work of seven valves. (This is the type of set used by Mr. Claude P. Grey, Shannon).

The following agents will be glad to furnish illustrated pamphlets and all particulars:—Farmers' Trading Co., Auckland; Turners' Music Stores, Willis St., Wellington; Frank Petersen, Masterton (Wairarapa Agency); Derby and Co., New Plymouth; Bennett, Ltd., Wanganui; Lyons, Ford and Keilar, Hawera; Treasure Cycle Co., Feilding; C. Curran, Wanganui; Kieeman and Bishop, Stratford; Bowick and Co., Hunterville; W. H. Book, Paton; Horne and Co., Woodville; Jeromes Bros., Mania; S. Webley, Martinborough.

Amalgamated Wireless (A'sia) Ltd.
Box 830 Wellington

YOU'RE THERE WITH A CROSLEY

Whether it be Rugby or Soccer match, Jazz Orchestra, or a Concert, everything is brought in by the famous Crosley Sets, and You're there! Hanscom SUPER-HIT cuts out 2YA on inside aerial.

PRICE, IN BEAUTIFUL INLAID OAK CABINET, £43/10/-

C. G. MACQUARRIE,

Wellington Agents Crosley and Hanscom Radio,

THE ELECTRIC SHOP,

85 WILLIS STREET,

WELLINGTON.

Complete Installations.

From the Woman's Point of View.

By VERITY.

THE TRUTH ABOUT FLOOR COVERINGS

Whether the home is a mansion or a cottage, a bungalow or a flat, one matter is of vital importance is the question of floor coverings. The truth about carpets, rugs and linoleums is that they are essential. There are certain points in the choosing of a carpet which may not be known to every one. To begin with, it should be borne in mind that a carpet does not wear from the top of the pile as many people think, but from what is known as the "bed." No matter how strongly a carpet or rug may appeal to you from an artistic point of view, do not select one until you have put it to the test. See whether it will fold easily. If it is unduly resisting you may be sure the carpet will not wear well.

IMPORTANCE OF CORRECT CHOICE.

The importance of correct floor coverings has been emphasised by Miss M. Puechegud at 4YA recently.

"We make or mar our homes," she said, "by our choice of floor coverings, just as often as we make or mar our homes by the right or wrong choice of wallpapers or furniture. Whether it be cheap or expensive linoleum, a cheap or an expensive rug or carpet, or even only a stained floor, with rugs scattered over it, if it is the wrong colour scheme, the wrong style, the incorrect size, no matter how beautiful it is in itself, the effect we are aiming at will be entirely spoiled. Instead of a beautiful restful home, you will have a habitation not only irritating to yourself, but also irritating to others. How are we to know what is a right choice, you ask? By studying the laws of harmony.

WHAT IS HARMONY?

"And what is harmony, you ask? Harmony is proportion, balance, balance applies not only to weight and size, kind and style, but to colour also. I cannot stress this point too often. Balance, proportion, harmony, whatever name you care to call it by, is the keynote, the foundation of successful house furnishing. Many people are in favour of painting and papering their homes before choosing the furniture and furnishings. This to my mind, is an entirely erroneous idea, if for no other reason than here, in this country, homes are more often built and then bought afterwards. No—after viewing the aspect and size of your room, which usually determines its use, think out your colour scheme, starting from your floor. So many people absolutely lose sight of the fact that the room, is, after all, subordinate to its inmate. The room is only a setting, and that by placing in it a carpet, rug or linoleum, which calls aloud to itself, it is frustrating the very first principles of harmony.

How often do we not see a beautifully designed carpet and long to possess it? Then we think—we have carpets enough. But no! perhaps the carpet in the livingroom is getting rather thin. We could move it into the bedroom. After arguing for some little time with ourselves, we finally decide we must have it—and we buy it! but how does our beautiful carpet look in a wrong setting? Did we think of it in relation to the room's aspect, to its size, to our furniture? No, we thought

only, "What a lovely colour! What wonderful quality. We are bitterly disappointed that it doesn't 'fit in' with the colour scheme of our livingroom—and even cheapens itself and its surroundings.

Does this mean that we cannot have a beautiful covering for our floor? Oh no! it merely means that care must be taken to select the right kind. Remember, your floor is the foundation of your setting, and all your colour arrangements work upwards from this; and no matter what scheme you are working upon your strongest tones must start from this.

PLAIN VERSUS PATTERNED.

"Even if one is working with pastel shades, the heavier and more intense tones must come from the floor. I have seen a rich cream carpet on a drawing-room floor with blue and gold tones in the upholstery, and yet the strongest tone was the cream tone of the carpet. As a general rule a plain carpet with a toned border is admirable in a room with a panelled rich floral paper, such as in a living room, in a library, or in a hall, or where there is woodwork showing, where the upholstery is figured in rich Oriental designs. This is what is known as harmony by contrast. On the other hand, plainly upholstered furniture will require carpets or rugs rich in design and colour.

THE LIVING ROOM.

"For a dining-room, as a general rule, a fairly plain all over design, or a bordered carpet or congoletum square is useful. The living room can have a very rich, bright, Oriental-designed carpet. As this room is usually the most lived in room of the house, and as the furnishing of this room is more or less democratic, the effect of a carpet rich in colour and design will make for a very cheering and brightening effect upon each member of the family. Stained and polished floors are most attractive when they are well done. Halls, bedrooms, and library look very well done in this way, but they must always be accompanied by very good Persian, Turkish, Chinese, or rich Oriental rugs of nice size. Never on any account place plain mohair or similar rugs on polished floors. For an invalid bedroom this plan of polished wood and rugs is an admirable one, as the room can be cleared at a moment's notice, the rugs being merely removed and shaken. Some of the colonial reversible woollen rugs now being manufactured are very attractive for this style of furnishing, and it would indeed be surprising if out of the almost countless variety of colour schemes offering, one was unable to choose just what would be required to make their room an attractive one.

"In a bedroom at all events the one-toned rug is the simplest and best. For a nursery an entirely plain all over carpet is best, or a light toned small patterned linoleum is clean and effective.

SIZE AND ASPECT.

"In conclusion," said Miss Puechegud, "let me repeat once again the aspect or outlook of a room will determine the tones of your carpet. If the room is a sunny one, grey, white,

LATEST FASHIONS

AFTERNOON FOR LADIES AT 3YA

For the benefit of the ladies who listen in during the afternoon, 3YA has arranged for a series of talks on fashions.

These will commence next Thursday, September 8. Mr. N. Wood, Assistant Manager of the D.I.C., Christchurch, will speak on fashions in frocks and millinery.

On September 15, there will be a fashion parade at the D.I.C., accompanied by orchestral music. Mr. Wood will describe the fashions, and his description, along with the music, will be broadcast.

The following Thursday, September 22, Mr. Wood will tell of fashions in hosiery, lingerie, gloves, neck-ware and shoes.

On October 6, a talk about furnishing the home will be given by Mr. Wood.



—Andrew, photo.
Madame Britten, who is giving fashion talks from 2YA.

green, and blue can be safely used as these colours will not add to the appearance of warmth. If the room is a sunless one, carpets having a cream effect may be used, as also carpets, linoleums, or rugs in yellow, red, pink or tan will give that appearance of warmth and brightness that the room's aspect prohibits. In small rooms, strong, bright colours in floor covering are quite out of place, as they tend to reduce the apparent size of the room. A small room will look more spacious if covered with fairly plain covering from wall to wall. A large room will be improved if strongly designed carpets, linoleums, and rugs are used.

Miss Puechegud will be happy to be of any assistance in the matter of advice in furnishing or refurnishing to interested country residents, and will be pleased to answer any inquiry on the subject of interior decoration over the wireless. Will they please forward their inquiries, together with plans of rooms and aspect, to her, at Station 4YA, Dunedin?

A GREAT RUSSIAN PIANIST

THE CAREER OF MARK HAMBOURG

Those of our listeners-in who, in response to our competition recently, sent requests for lectures on the lives of great artists and musicians of the present day will, I think, be glad to know that Mr. Eric Bell, studio pianist at 1YA, is already giving a series of chats on great musicians. A recent talk of his on Mark Hambourg was especially interesting.

"The musical biography of a pianist," said Mr. Bell, "seems to be generally of more interest than that of any other style of musician. Mark Hambourg, who travels to and from upon the earth, delighting great audiences, has now lived for forty-eight years, but many will still remember and think of him as an infant prodigy. He did not like being exploited and feted as a prodigy. Ladies insisted on kissing him and stroking his hair, and he found it 'so tiresome.' They brought him flowers, though he told them that bouquets were no use to him; and at last he made a rule that the ladies could not kiss him if they only brought flowers; they must bring sweets, for he was very fond of sweets. In those days, when he was about nine or ten, he 'did not love practising a bit.' In fact, the naughty little boy would sometimes run wood splinters into his fingers so that he should not be able to practise! The idea of having to play was repugnant to him until he made his first formal public appearance.

Early Days.

"Hambourg was born at Bogutschar, South Russia, in 1879. Soon after his parents were married they had been arrested and imprisoned on a charge of Nihilism. They were certainly no Nihilists, but they had friends who were, and that created a suspicion. Eventually they were released, and they removed to London. The father, Michael Hambourg, gave Mark his first lessons, and directed all his prodigy period. Then, on the advice of Dr. Richter, he was sent to Leschetitzky, at Vienna, with whom he studied for nearly three years. It is said that Leschetitzky returned him all the fees he had paid, with the remark: 'Take this, for you will need it in your career.' An extract from a fellow-musician's diary gives a vivid picture of him in class: 'He marched up to the piano and sat down, as usual, with a jerk, looking like a juvenile thundercloud. When he stopped we burst into a storm of applause, but, grim little hero that he is, he was off into the open. The Professor turned round to us and murmured, 'He has a future; he can play.'"

At the age of fifteen, Hambourg made his debut as a soloist at a Philharmonic concert in Vienna, Richter being the conductor. Since then, as he puts it himself, "I have been to Australia, America, and, in fact, pretty well all over the world." He has given something like 9000 recitals. He once gave one in Milan, on May 21, and one in Cardiff on May 23. The mental strain is enormous, and he would never be

able to stand it but for the distractions of stamp collecting and photography.

A Pianist's Enemies.

He is somewhat cynical about his calling. The professional pianist, he declares, "has enemies all through life. First, his family and neighbours, when, as a child, he begins to practise; next, as he succeeds, every pianist who is less successful, next, all piano-makers except the one he patronises; next, all musical agents except his own; next, organists in general; next, patriotic critics when he is in a foreign land; and last, the conductor of the orchestra, who wants all the credit for himself."

Many will think it curious to find him insisting that an artist cannot be too nervous. "I don't mean that he should be afraid, but his nervous system cannot be too sensitive, too highly-strung, too ready to receive impressions. When a musician plays in the evening, he reflects impressions received in the morning—impressions derived from nature and from society. If he plays a piece a hundred times, it will be a different performance on each occasion. A musician can express any mood in any piece; but of course he could not put safety into a slow movement, or sadness into a quick one."

Interesting Adventure.

Mark Hambourg has had many interesting adventures, some of them humorous, though they have often left him in an awkward position.

Once, during a South African tour, he had to get the help of a party of coolies to carry his grand piano from the station, and allowed them to listen to the concert from the wings. Coming off the platform and wiping his brow, he observed to one of the coolies: "It's hard work playing." "Oh, is it?" was the reply; "you should try lifting."

But perhaps Hambourg's most exciting experience was at Warsaw in 1908, when he was compelled to play to a powerful section of the revolutionary party in what seemed to be an underground meeting. He found himself recalled 26 times, and obliged to play six encore pieces. The next evening at the Warsaw Philharmonic Society's concert, where revolutionists turned out in full force, was a magnificent reward.

Less eminent pianists might not find the ordeal of soothing the savage revolutionary breast quite so satisfactory; but doubtless, Warsaw, like other places, could do without some of its pianists. Even a revolutionist may have his legitimate uses, and this incident suggests one of them.

Mr. Hambourg's brother, Jan and Boris, are well known, the one as violinist the other as cellist. They are now both with their father at his conservatoire in Toronto. The father could not stand the English climate, and Mark, after a recent tour, came to the conclusion that Canada is "the land of opportunity."

INTERESTING QUERIES AND ANSWERS

THE QUESTION OF RE-BROADCASTING AUSTRALIA

To the Editor.

Sir,—I beg to bring to your notice some matters of interest to listeners, especially those who own crystal sets. Perhaps you will deal with some of the questions in the "Record."

1. As 80 per cent. of listeners are dependent on crystal reception, could not relays from Australia be given once a week, or from 2YA, not necessarily for the whole evening, but a short lecture or two or three concert items?

2. Could you publish the closing time of 2YA? I have twice heard 2YA on my crystal set after 10 p.m. Last Monday I was delighted to hear Wellington very clearly on 'phones from 10.15 to 10.30 p.m. If 1YA would close down at 10 p.m. and 2YA go on to 10.30 p.m. crystal users would be pleased. Even if 2YA could work until 10.30 p.m. only once a week, many people up here would be grateful. It would be better still if the 1YA announcer would state at 8 p.m. and 9 p.m. that 2YA would work until 10.30 p.m. Further, may I suggest that where the published programme cannot be adhered to that notice be given early in the evening. There are many people who cannot listen for the whole evening. They have other matters to attend to—work and study.

3. Can crystal sets be made selective? Can 1YA and 2YA be cut out within 5 miles of the stations?

Is the carborundum detector with stabiliser recommended? Many of the dealers in Auckland seem overstocked with them. The carborundum detector by itself is no better than the ordinary cat-whisker type with me. Is the ball aerial recommended?

4. Re Saturday night jazz for two hours. If any other items are to be given during this time the announcer should say so at 9 p.m. It's a great waste of time to have to listen from 9 to 11 p.m. in the hope of getting some

interesting piece of news. I'm real sorry for the announcer. Perhaps he feels that he must break the monotony.

5. May I express my appreciation of the manner in which the National Anthem



—Photo, Bellwood.
MISS ELSIE BENTLEY.
Miss Bentley is a very pleasing soprano, and a member of the Orpheus Quartet. She frequently appears in company with Mr. Duncan Black, the well-known bass at 1YA.

is given by 2YA? I think that 1YA is not correct in giving the whole verse.

6. Can you later on deal with the question of distant crystal reception? My brother at Pukekohe, 30 miles from Auckland, hears 2YA easily, sometimes

when 1YA is working. He also gets 3YA, 2FC, and one or two other stations. Is this reception direct or per medium of valve sets nearby?

7. May a licensee put up a second aerial without extra fee? Is the license for the house, persons, set, or aerial?—Yours, etc.,

W. H. WADDELL.

POINTS IN ANSWER.

Company experts supply the following information:—

Apart from the fact that with the great improvement in the programmes broadcast from the New Zealand stations, there is now little need to go to Australia for entertainment, unless as an interesting novelty, the re-broadcasting of the overseas stations is not likely to meet with general approval, for the results cannot be guaranteed. Those who listen-in to Australian stations know what an abomination the displays of static often are, and if the company picked that up and re-broadcast it for the questionable benefit of crystal set users, what sort of criticism would be hurled at the head of the company? The Broadcasting Company cannot rely on picking up and using parts of the programme of an Australian station at any time because conditions might be bad for reception and re-broadcasting might be an absolute fiasco. It therefore has to have its own programmes prepared, and the artists being ready, they must not be disappointed. The Broadcasting Company is entirely different from the man who has a valve set in his home. He has only his own household to please. If one station is noisy he simply tunes in another. He will sample every New Zealand and Australian station within his range. But if the Broadcasting Company did that listeners would not put up with it. Their complaints would be justified, too. Every New Zealand station must have a definite programme, and it has to be adhered to as near as possible. The company already suffers much criticism when a programme is

upset through the indisposition of an artist, a faulty relay line, or other circumstance beyond its control. By undertaking to rebroadcast Australian stations it would only be seeking extra troubles.

The same remarks apply in a minor degree to the New Zealand stations. There are atmospheric conditions over which no one has any control. At the



MR. PETER DAWSON

Mr. Dawson is a prominent elocutionist whose recitations and dramatic recitals are always welcomed from 1YA.

same time, repeated broadcasts have been made, especially by 3YA of 2YA, for 2YA is received well in Christchurch, and 2YA has rebroadcast 3YA. This was accomplished on the occasion of the Riccarton races and was completely successful. Auckland, again, rebroadcast Wellington.

It is essential to good re-broadcasting to have a receiving station in an isolated position, connected by a perfect telephone line with the transmitting station. Such conditions are difficult to secure, and they must go hand in hand with favourable atmospherics. The company is endeavouring to secure the best sites for receiving stations. Up to the present only temporary arrangements have been made. Even when permanent stations are established re-broadcasting will be a very risky procedure, and, once the novelty of the "stunt" has worn off, listeners will be extremely critical. The company, therefore, not likely to make a practice of re-broadcasting, but will do so when atmospheric conditions are suitable and the items which can be "picked up" fit in with the times and nature of the station's programme.

There is no fixed time for 2YA closing down. It should be possible at every station to announce beforehand any unavoidable alterations in the advertised programme.

Crystal sets cannot be made selective to any great extent.

The advantage in a carborundum detector with stabiliser is that it is stable. No adjustments are required.

There is no advantage in using a ball aerial.

In regard to the jazz session, it is not likely that announcements are withheld intentionally. If any items of news are given out then it is because they were not to hand at the right time.

A license is for a receiving set. The principle followed is that a man in a private house may erect a second aerial, but in the case of a boardinghouse, hotel, etc., extra aerials are not allowed.

The Chit-Chat Club—

Points from Papers Put "Over the Air."

(Set Down by "Telanother")

Winton Thribs had just concluded a very satisfactory deal and feeling that some celebration was needed, hurried along to the X club. Arrived there, he found that Harrison and Brenton were the only two members there, so calling for refreshments, the three took seats by the large open fire and began to chat on various subjects.

Eventually the talk came round to football and the form shown by the various provinces. "It seems to me," said Brenton, who, being a keen physical culturist and outdoor man, posed as an authority on the game, "that we are going back. Take the provincial contests this season. They were very disappointing, and in the case of the Hawke's Bay v. Wairarapa match we saw nothing in the way of football at all. It was merely a dog fight. I know one schoolmaster who was furious to think that his boys had seen the game, which was supposed to be a meeting of two champion teams."

"I think it was merely a case of local feeling in that match," said Thribs. "I think our standard is better than ever. It seems to me that our players use their brains more than they used to. I believe we'll put up a much better showing against the South Africans next year than we did in 1921."

"I heard a ripping address over the wireless about our chances," said Harrison. "It was given by Mr. T. A. Fletcher, and he thinks that we've got a pretty good chance next year. He showed the difference between the styles of play of New Zealand and South Africa, but said that he believed our style would turn out the best."

"They play a different forward formation, don't they?" said Thribs.

"Yes," replied Harrison. "They play eight forwards as against our seven, but they don't put them down in the scrum in the orthodox British formation of 3-2-3. Instead they use a 3-3-2 formation. Last time they were here they sometimes used a 4-4 formation, the scrum thus consisting of only two rows. Under the new rules though it is illegal to pack more than three men down in the front row."

"Quite right too," said Brenton. "Mr. Fletcher believes if the opposing teams next year are about equal in merit, the victories in the main, will go to the team with the superior system of attack. He believes that we in New Zealand have a better attacking formation than the South Africans."

"I don't know so much about that," said Brenton. "They put it across us last time you know."

"Yes, but we've been quick to learn the lessons from those victories, and have improved our forward play in recent years. The old slow moving forward has given way to the fast moving forward who is at all times ready to assist the backs with their work. If we can get our big heavy fast moving forwards to adopt the latest methods of handling the ball, Mr. Fletcher thinks we have nothing to fear in South Africa. In other words, the side that dominates the scrum will 'call the tune'."

"But does he make allowance for the improvement that is taking place in football in South Africa," said Brenton.

"Yes," said Harrison, "he went into that pretty closely, and quoted several South African authorities on the game. Mr. S. M. Wood, ex Vice-President of the Transvaal Union considers that while South Africa is not individually as strong as in the past, the combined play is better. Another critic there considers that South Africa lacks clever, thrustful centres, and has no full-back of the calibre of Morkel who kicked with such deadly accuracy during the 1921 tour. Their forwards, like ours are better than they were. Another prominent rugby enthusiast there is of the same opinion regarding the forwards and says that they have never been stronger. He thinks that if a little more attention were paid to the art of dribbling the ball in a rush, South Africa could field a pack second to none in the world."

"Weighing up these different opinions, Mr. Fletcher said that he thought it could be taken for granted that South Africa was stronger in the forwards than ever, but that the inside backs were hardly up to the old standard. He thinks that this is where we will have an advantage, and believes that we will be able to give as good an account of ourselves in South Africa as we did in England."

"I can't agree with him there," said Blinks, who had just arrived and had heard the criticisms. "If we can hold our own it will be as much as we can do. We won all our matches in England, and I'll warrant we can't do anything like that in South Africa."

"Well, we'll have one to celebrate our chances," said Thribs, who was still feeling a glow of satisfaction with his business deal. Reinforced with a further instalment of 'the cup that cheers,' the conversation became more animated, Blinks and Har-

ison getting into a wordy argument regarding the respective merits of different halves.

"I heard a rather interesting address from IYA recently," said Larton, who had just joined the circle. "It was given by Mr. W. J. Collier, and was called 'The Glories of the Heavens.' It was really astronomy for beginners made easy."

"We shouldn't encourage people to study the stars," said the oldest member who had been sitting silently in the circle for some time, and thought it was about time he said something. "We weren't meant to know anything about those mysteries."

"Rubbish," said Thribs determinedly.

"It's nothing of the kind," said the oldest member. "That's the sort of thing that leads to spiritualism—seances and asylums."

"As a matter of fact," said Larton with a twinkle in his eye, "I was wishing you were with me when I heard it. I couldn't help thinking that a knowledge of the positions of the stars would be a great help to you after the veterans smoke concerts and other jamborees you attend."

"I don't need the stars to find my way home," said the oldest member with hauteur, "I can take my liquor like a man—which is more than can be said of a lot of you young birds."

"Anyway," continued Larton, "the lecture was a good one. After all astronomy is the oldest science of all, and yet there's not one in a hundred that could tell you anything about the Heavens. Mr. Collier showed that astronomy was so exact a science that the astronomer could tell exactly when certain comets would appear, even although they were only to be seen for a few minutes over long periods of time. But what I thought was the most wonderful of all was that they can tell when a new comet will be showing. There are hundreds of millions of stars, of which we can see about 2,700 with the naked eye."

"I'll take your word for that," said Wishart, who had recently qualified for admission to the wireless bug's corner by getting a 'five valver.' Wishart was the only bachelor member of the circle, and as such was made the butt of many a little jest. But, as he himself pointed out, he had the laugh over the others when he saw them scurrying for home, when it came to six o'clock.

"Next time you take her out," said Thribs, "have a try and count them. That is, of course, if you can spare the time from other pursuits."

"The speaker took us round the Zodiac on a most interesting trip and showed us how we might distinguish the principal stars."

"Where can you see them?" asked Wishart.

"I'm falling, I'm falling, and head over ears..." whistled Thribs softly. "Tut, tu my boy, I had thought better of you. Want to air your astronomical knowledge before her, do you?"

"Oh shut up," said Wishart, "I'm a bachelor by profession."

"But not by inclination I guess," said Blinks.

"You see the finest stars due north," said Larton breaking into the round of pleasantries. "but in the southern skies is the Southern Cross with its four brilliant points which can be picked up on any clear night. The stars change their colour at times, and Sirius, which was at one time red, is now white, which shows that it is considerably hotter than it used to be. The stars that look only a mile or so apart are really millions of miles away from each other. It reminds one of the story of the Professor of Astronomy. In one of his lectures he said: 'This world of ours cannot possibly last more than another fifty million years.' 'What,' said one of the students, in a most agitated tone. 'How many years did you say?' 'Fifty million,' replied the Professor. 'Oh thank goodness,' said the student, relieved, 'I thought you said fifteen million.'

"And," concluded Larton, "if Wishart or any of you want to study the stars a little more closely, Mr. Collier recommended a book called 'An Easy Guide to the Southern Sky.' It won't be over the heads of your modest intelligences, because he said it wasn't a scientific treatise, but merely a jolly interesting book on the Heavens."

"Talking of books," said Blinks, "I heard a good book review from IYA recently. It was on 'Plant Life in Maoriland,' by Miss Marguerite Crooks, M.A., and I learnt a lot about our forests and native plants."

"We don't know what plant life is like here," said the oldest member. "Why, when I was in the tropics, I used to see orchids of all colours, and flowers that would trap insects and feed on them. You've nothing like that here."

In this Chit Chat Club "Telanother" reviews prominent talks given over the air.

"Our Rugby Chances in South Africa."

"The Wonders of the Heavens."

"New Zealand Plant Life."

"More Steps to Health."

And it seems that we have dozens of her orchids and strange plants of which the average person knows practically nothing. The book apparently deals with all our plant life from a popular point of view, the aim of the authoress being to find methods of expression that appeal to the earnest but uninstructed lover of nature. The book tells of our beautiful kauri forests, and the many perching plants which are to be found high up in the kauri trees. There is one which, being in danger of suffering from a shortage of water, has provided itself with a reservoir from which to draw supplies in the dry weather."



Photo, Janneer.
Mr. T. Fletcher, who thinks our chances against South Africa at Rugby are good.

"I think the rata is the most beautiful of the climbers in the forest," said Larton.

"Yes, it probably is," said Blinks, "but it is apparently one of the most cruel. It lodges in the fork of a tree, and then sends a root down into the ground. Year by year it grows stronger until at length it kills the tree. Then it proceeds to grow and grow until it becomes a huge tree."

"Another most interesting plant described was a parasite known to the Maoris as 'Wae-wae-atua,' the flower of Hades. This cunning thief grafts itself on to the root of a hard work-

ing plant and deflects within its own ugly form the health giving juices intended by the host plant for its own use."

"I never knew we had things like that in New Zealand," said Thribs.

"No, and the most interesting thing about the flower of Hades is that it suffers the penalty of all parasites, and if it cannot find a suitable host, dies."

"The second part of the book deals with the sea shore plants of which the pohutukawa takes pride of place. That bizarre amphibian, the mangrove, unknown to thousands of New Zealanders, flourishes in the swamps of the sea coast in parts of the country, being able by some strange means to hold its position through the shifting of the tides."

"The next section deals with moor and marsh, and the many unique plants which these contain. All over the gunlands are to be found quaint native orchids, while strange ferns grow there in profusion."

"Other sections of the book, which must be intensely interesting deal with the mountain plants and flowers, and the vegetation in the arid and tussock regions. Finally Miss Crooks deals with 'humbler brethren' including a far famed vegetable caterpillar which turns out on examination to be a simple parasitic fungus attacking the larvae of a certain moth. One chapter deals with the slime fungus, a wonderful plant which spends part of its life as a plant and part living like an animal. Altogether," concluded Blinks, "the address made me feel a worm for knowing so little about New Zealand plants, and I for one am going to 'et the book.'"

"Well," said Thribs, who always delighted in having a jibe at Blinks, "anything that could make Blinks feel his natural self like that, must be worth while, so I'll get one too."

"Where's Drexler to-day?" said Thribs.

"He's down with a touch of the flu," said Harrison, "and says it's only wireless that's keeping him alive."

"Wireless out of a bottle," growled the oldest member, "if I know anything about it."

"Seems to be a lot more sickness about now than there used to be," said Larton. "When I was a kid older people didn't seem to be laid up so often."

"You're soft, sir," said the oldest member. "Damn soft, the lot of you. Here am I, hardly been a day in bed in my life."

"Physical culture's what we need," said Brenton. "That's the thing to make you fit and keep you fit."

"Nonsense," said the oldest member, to whom the words physical culture were as a red rag to a bull. "My grandfather lived to be 100. From the time he was a young man he took his 'six bottles a day' like a gentleman, and never did any hard exercise all his life. It's your rotten constitutions."

"I heard another of W. N. Kerr's physical culture lectures over the air the other night," said Brenton, and..

"I'm off," said the oldest member. "You fellows can't keep away from talking about yourselves. You make me feel you're a lot of disease carriers every time you start like this," and with that he stumped out.

"What are the stunts this week," said Thribs, who, being somewhat corpulent, was trying various systems for reducing his weight.

"He advanced a rather interesting theory and said that if your chest lacked elasticity and mobility, have a look at your legs."

"What on earth for?" queried Thribs.

"Well, his contention is that if the muscles of your legs, hips and back aren't properly developed, there won't be sufficient room to allow your lungs to expand properly. In other words, the ordinary mortal doesn't get enough good fresh air into his lungs because his legs won't let him. Sounds funny, I know, but there's something in it. If you want to prove it for yourself, do what he said. Lift your leg forwards, and placing your heel on a table and keeping both legs stiff, bend forwards and touch the knee of your extended leg with your forehead. Both legs must be kept stiff. If any of you chaps think it's easy, try it."

"Conventional living has so restricted us that we don't use some of our muscles at all, with the result that instead of being upright, our bodies fall forward, restricting digestion and causing all sorts of ailments."

"How can we put it right?" said Thribs, who seemed to see his own case figuring largely in the unpleasant picture.

"Only by continued hard exercise every day," said Brenton. "These conditions come about slowly and can only be removed in the same way. Another interesting thing Mr. Kerr told us was how to remedy red noses."

"That's easy," said Blinks, "just put more water with it."

"I admit that would help in your case," said Brenton icily, "but there are other things to be done as well. The corpuscles in the blood must have air, and they come to the surface skin to get it. In winter time, when we cover ourselves up almost completely, they come to the only uncovered spots, which very often means the nose. Mr. Kerr believes that if we would strip off twice every day and give ourselves a good application of the flesh glove, we would soon cure the red noses. Moreover, it will remove the fatness from our bodies and generally put us in a better condition of health."

"He's right about the flesh glove," said Thribs enthusiastically, "I've been using it myself and I feel ever so much fitter."

"Mm," said Blinks, "I do believe old Winton has lost half a pound or so. You'll soon be down to the seventeen stone mark, my lad."

"I'm going to be down to the thirteen stone before the summer," said Thribs, "if I die for it."

"You probably will," said Blinks cheerfully, "and so will I if I'm not home for dinner in time."

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IYA FEATURES

NEXT WEEK'S ARTISTS

A fine musical programme, of vocal and instrumental items, has been prepared for Tuesday. Following on a relay of music by the Majestic Theatre Orchestra, under the baton of Mr. J. Whitford-Waugh, Miss Nellie Lingard will sing "Che Faro." She will also sing two other songs, as well as take part in two duets with Miss Peggy Cutting, the principal one being "Still as the Night." Mr. Frank Sutherland, baritone, who recently took a solo part in the Choral Society's performance of "Aida," will render three selections, including a number typical of old English country life, "Brendon Fair," Miss Peggy Cutting's items will be the "Hindu Song," "Only the River Running By," and "Sometimes in Summer." Mr. George Poore, conductor of the Prince Edward Theatre Orchestra and one of the leading flautists in Auckland, will render three selections. A new combination to radio is the Microvellers, a male quartet which will provide several popular songs and the latest items. Cornet duets will be played by Messrs. Davies and Salthouse.

PALMS AND SONGS.

The first hour of Wednesday evening's programme will contain an item of exceptional interest from Mr. Leonard Griffiths, Fellow of the Royal Horticultural Society, and Fellow of the New Zealand Institute. Mr. Griffiths is a regular contributor on Horticultural matters to the local Press, and his subject will be "Tropical Palms and their Uses." He will talk on native palms selected from all the more important countries of the world and will trace the various commercial uses to which these palms are put. The item will be introduced with a suitable elo-



MR. DUNCAN BLACK.

Before coming to New Zealand, Mr. Black was a pupil of William Gellieby, the noted Scottish tenor, and Robert Hallyburton, Professor of the Glasgow Athenaeum School of Music. Mr. Black has sung at all the principal theatres in the Old Country. He also worked the Lion Circuit of playhouses, and toured with the great Russian actress, Princess Bairnettesky. Mr. Black was tendered a farewell concert by the Scottish Artists' Association when leaving for New Zealand. Mr. Black is a member of the Orpheus Quartet, and a prominent member of the Otahuhu Orphans' Club.

stationary prologue, Mr. Walter Brough, the popular baritone, and Miss Edna Peace, contralto, will also appear. The concluding hour will be given by Mr. Arthur R. Wilson on his Organ (assisted by Mrs. C. Turley, contralto).

BEST OF THE WEEK.

Thursday's programme should be the best of the week. It introduces for the first time what is possibly the city's leading instrumental trio, led by Mr. Eric Waters, pianist, who is assisted by Miss Margaret Stoddart (violinist), and Miss Lalla Hemus (cellist). Although the trio is new to listeners, two members, Misses Stoddart and Hemus, have both been previously heard in solo items, Miss Hemus on one occasion only, namely, at the special demonstration concert given last January. Mr. Eric Waters is one of the best known pianists in the city and an accompanist of pronounced ability.

On the same programme, Mr. Cyril Towsey, whose items are eagerly looked forward to by listeners, has, in contrast to his previous performance, at which he played two numbers by Debussy, selected two items from the older school of composers, "Nocturne in F Sharp Major," by Chopin, and "Impromptu in B Flat Major," by Schubert. The Schubert number will be the first of his impromptus that have been played at this station. Mrs. Cyril Towsey, the well-known soprano, will render two numbers, chief of which will be Harty's "Sea Wrack."

Mr. Barry Coney will be again welcomed in baritone numbers, which will include a rollicking song of the sea, "Sons of the Sea," by Coleridge-Taylor.

(Continued next page).

Sunday, September 4th

1YA (333 METRES)—SUNDAY, SEPTEMBER 4.

6.55: Relay of church service from St. Andrew's Presbyterian Church. Preacher, Rev. Lamb-Harvey. Organist, Dr. McDougall.
8.30: Selected items from studio.
9.30: Close down.

2YA (420 METRES)—SUNDAY, SEPTEMBER 4.

3 p.m.: Relay of lecture on "Christian Science" from De Luxe Theatre.
6.55: Relay of church service from St. Andrew's Presbyterian Church. Preacher, Rev. R. Howie.
8.15: Relay of band concert from the Grand Opera House by the Port Nicholson Band. Conductor, Mr. J. J. Drew.

3YA (406 METRES)—SUNDAY, SEPTEMBER 4.

5.45 p.m.: Children's service, from 3YA Studio.
6.30: Relay of evening service from Durham Street Methodist Church, including solos and choral items. Minister, Rev. W. A. Hay. Choirmaster and organist, Mr. Ernest Firth, F.R.C.O.
8.15: Relay from Liberty Picture Theatre of concert arranged by Returned Soldiers' Association for their Unemployment Fund.

4YA (463 METRES)—SUNDAY, SEPTEMBER 4.

6.30 p.m.: Relay of service from Hanover-Street Baptist Church. Preacher, Rev. E. S. Tuckwell. Organist, Mr. Upton-Harvey.
8 to 9: Studio concert.

Monday, September 5th,

1YA (333 METRES)—MONDAY, SEPTEMBER 5—SILENT.

2YA (420 METRES)—MONDAY, SEPTEMBER 5.

3 p.m.: Gramophone recital.
3.30: Lecturette—Talk on "Fashions," by Madame Fleck.
3.45: Gramophone recital.
5.0: Close down.
6.30 to 6.55: Aunt Jo.
7.0: News session and market reports.
7.34: Lecturette—Mr. Preston Billing, "Radio: Manipulation and Care of Radio Receiving Sets."

8.0: Chimes.
8.1: Instrumental—Studio Orchestra, selected.
8.10: Piano solo—Miss Howard, "Rondo Capriccioso" (Mendelssohn).
8.15: Violin solo—Miss Thompson, "Andantino" (Kreisler-Schol).
8.19: Tenor solo—Mr. Eric Rishworth, "Hugh's Song of the Road" (Williams-Carwen).

8.23: Cello solo—Miss K. L. Prenter, "Bouree" (Handel-Peters).
8.28: Mezzo-soprano solo—Miss Thompson, "Nymphs" (Shepherds-Purcell).
8.32: Baritone solo—Mr. T. C. Wood, "Maids May Boast" (Gounod).
8.36: Instrumental trio—The Nga Tawa Trio, "Trio in C Minor" (Mendelssohn-Augener).

8.45: Contralto solo—Mrs. Townley, "Fascination" (Dessauer-Augener).
8.52: Piano solo—Miss Howard, "Arabesque" (Debussy-Durand and C.).
9.0: Weather forecast.
9.1: Lecturette—Mr. Carlson F. Holmes, "Publicity Down the Ages."

9.11: Instrumental—Studio Orchestra, selected.
9.21: Violin—Miss Thompson, "Romance" (Svendsen-Hansin).
9.26: Tenor—Eric Rishworth, "The Luring Song" from "The Immortal Hour" (Broughton-Stamer and Bell).

9.31: Cello—Miss K. L. Prenter, "Aria in D" (Bach-Andre).
9.36: Baritone—Mr. T. C. Wood, "The Song of the Flea" (Moussorgsky-Chester).

9.40: Trio—The Nga Tawa Trio, "Serenade" (Widor-Schott and Co.).
9.50: Contralto—Mrs. Townley, "Songs My Mother Taught Me" (Dvorak-Lengnick and Co.).

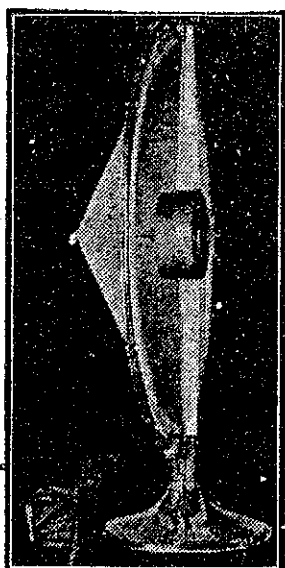
9.54: Mezzo-soprano—Miss Thompson, "Shepherd's Song" (Egar-Cherberg and Hopwood).
10.4: Instrumental—Studio Orchestra, selected.
10.14: Close down.

3YA (306 METRES)—MONDAY, SEPTEMBER 5.

3 p.m.: Afternoon concert session.
6.0: Children's session, by Uncle Sam.
7.15: News and reports.
8.0: Chimes. Studio concert by Band of the 1st Canterbury Regimental Infantry, under conductorship of Lieutenant C. H. Hoskin, and assisting 3YA vocalists.

8.1: March—Band, "Royal Artillery" (Hume).
8.7: Baritone solos—Mr. Wm. C. Mann, (a) "The Ballad Monger" (Martin), (b) "My Heart is a Haven" (Heinel).

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8.27: Waltz—Band, "Summer Glory" (Greenwood).
8.31: Bass solos—Mr. E. J. Chadwick, (a) "Jack Briton" (Squire), (b) "Asleep 'neath the Dark Blue Wave" (Leigh).
8.37: March—Band, "Evertonian" (Greenwood).
8.43: Mezzo-soprano solo—Miss Mabel Hobbs, "Love's Whisper" (C. Willeby).
8.46: Cornet solo—Band, "Love's Garden of Roses" (H. Wood).
8.51: Baritone solo—Mr. Wm. C. Mann, "Change o' Mind" (Curran).
8.55: Two-step—Band, "Manuella" (A. Lotter).
9.0: Weather report. Relay orchestral selections from Strand Theatre.
9.7: Soprano solo—Miss Gladys Howey, "Persian Prayer Rug" (Crompton).
9.21: Selection—Band, "A Day With the Huntsman" (Rimmer).
9.16: Mezzo-soprano solo—Miss Mabel Hobbs, "Springtime" (Tirindelli).
9.30: Selection—Band, "Boccaccio" (Suppe-Hawkins).
9.38: Bass solo—Mr. E. J. Chadwick, "Big Ben" (Pontet).
9.42: Selection—Band, "H.M.S. Pinafore" (Sullivan).
9.50: Mezzo-soprano solo—Miss Mabel Hobbs, "Night" (Mallinson).
9.54: March—Band, "Gladiator" (Hawkins).
10.0: God Save the King. Close down.

4YA—MONDAY, SEPTEMBER 5—SILENT.

Tuesday, September 6th.

1YA (333 METRES)—TUESDAY, SEPTEMBER 6.

3 to 4.30 p.m.: Afternoon studio concert.
6.30: Children's session—Aunt Betty.
7.15: News and information session.
7.30: Talk on "Wireless," by Mr. E. W. Mahoney.
7.45: Close down.
8.0: Chimes.

8.1: Relay of overture from Majestic Theatre. Mr. J. Whitford-Waugh, conductor.

8.20: Contralto solo—Miss N. Lingard, "Che Faro."
8.25: Baritone solo—Mr. F. Sutherland, (a) "Brendon Fair" and (b) "The Harlequin."

8.33: Cornet duet—Messrs. R. Davies and Salthouse, "Ida and Dot."
8.38: Soprano—Miss Peggy Cutting, (a) "Hindu Song," (b) "Only the River Running By."

8.45: Quartet—The Microvellers, harmonies.
8.51: Flute—Mr. Geo. Poore, selected.
8.55: Duet—Messrs. Lingard and Cutting, "Still as the Night" (Bohm).
9.0: Weather report.

9.1: Relay from Majestic Theatre.
9.20: Contralto—Miss N. Lingard, (a) "My Dear Soul," (b) selected.
9.28: Baritone—Mr. Sutherland, "Youth" (Allitsen).

9.33: Cornet duet—Messrs. Davies and Salthouse, (a) "Besses o' the Barn," (b) "In the Garden of My Heart."

9.41: Soprano—Miss P. Cutting, "Sometimes in Summer."
9.45: Quartet—The Microvellers, more harmony.
9.50: Flute solos—Mr. Geo. Poore, selected.

9.56: Duet—Misses Lingard and Cutting, "Barcarolle" (Offenbach).
10.0: Close down.

2YA (420 METRES)—TUESDAY, SEPTEMBER 6.

3 to 5 p.m.: Afternoon session.
3.30: Lecturette—"Gas Cooking," by Miss Marion Christian.
7 to 7.30: News session, market reports, and sporting results.
7.34: Lecturette—"New Zealand Dairy Produce Markets," by Mr. T. C. Brash.
8.0: Chimes—Wellington G.P.O.

8.1: Instrumental—Studio Orchestra, selected.
8.15: Tenor solo—Mr. Harry Phipps, "Love, Could I Only Tell Thee" (Capel).
8.20: Flute solo—Mr. C. Tucker, (a) "Andante in C Major" (Mozart), (b) "By the Brook" (Metzner).

8.25: Bass solo—Mr. W. W. Marshall, "Myself When Young" (Lehmann).
8.30: Organ solo—Mr. H. E. Brusey, "Suite Gothique" (Boellmann). Relayed from The Terrace Congregational Church.

8.40: Soprano solo—Mrs. Glen Grange, "The Road to Spring" (Cox).
8.45: Violin—Mr. Allon Carr, selected.
8.50: Instrumental—Studio Orchestra, selected.

9.0: Weather report.
9.5: Tenor—Mr. H. Phipps, "Scent of the Lilies" (Cobb).
9.10: Flute—Mr. C. Tucker, "Polonaise" (Buse).

9.15: Instrumental—Studio Orchestra, selected.
9.25: Bass—Mr. W. W. Marshall, (a) "Roll on, Thou Deep and Dark Blue Ocean" (Petrie), (b) "The Bell at Sea" (Adams).

9.37: Organ solo—Mr. H. E. Brusey, "March Militaire" (Schubert), and "Caprice in G Minor" (Crockel). Relayed from The Terrace Congregational Church.

9.57: Soprano—Mrs. Glen Grange, "No! No! No!" (Mattei).
10.2: Violin—Mr. Allon Carr, selected.
10.7: Instrumental—Studio Orchestra, selected.

10.22: Close down.

3YA—TUESDAY, SEPTEMBER 6—SILENT

4YA (463 METRES)—TUESDAY, SEPTEMBER 6.

3.0: Town Hall chimes.
3.1: His Master's Voice recital.
3.15: Address by Miss Puechegud on "Interior Decoration: Home Planning."
3.30: Studio music.
4.0: Book reviews by Mr. H. Greenwood, Librarian, Dunedin Athenaeum.

4.15: His Master's Voice recital.
7 to 7.30: Children's session—Aunt Diana.
7.30 to 7.45: News service.

8 to 10 p.m.—
8.0: Town Hall chimes.
8.1: Instrumental trio—Miss Eva Judd (violin), Mr. Alex. Blyth (cello), Miss Muriel Caddie (piano), "Serenade" (Widor).

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Week - All Stations - to Sept. 11

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- 8.5: Baritone solos—Mr. Alex. Snell, (a) "Friend" (Davies), (b) "Harlequin" (Sanderson).
 8.11: Violin solo—Miss Eva Judd, "Legende" (Wieniawski).
 8.15: Mezzo-soprano solos—Mrs. J. Marshall, (a) "The Carnival" (Molloy), (b) "Danny Boy" (Weatherley).
 8.21: Recital—Miss T. Jefferson, "The Glory of the Garden" (Kipling).
 8.25: Baritone solos—Mr. J. Alexander, (a) "The Link Divine" (Piccolomini), (b) "Because" (d'Hardelet).
 8.31: Pianoforte solo—Miss Muriel Caddie, "L'Alouette" (Glinka).
 8.35: Contralto solos—Miss Gwen Cooper, (a) "Little Old Garden" (Hewitt), (b) "The Garden of Your Heart" (Dorel).
 8.41: Instrumental trio—Miss Eva Judd, Mr. Alex. Blyth, and Miss Muriel Caddie, "Song Without Words, No. 18" (Mendelssohn).
 8.45: Address by Pastor W. D. More, "Getting Married."
 9.0: Baritone solos—Mr. Alex. Snell, selected.
 9.6: Violin solo—Miss Eva Judd, "Waltzer's Preislied" (Wagner).
 9.10: Mezzo-soprano solos—Mrs. J. Marshall, (a) "Friend o' Mine" (Sanderson), (b) "Love Sends a Little Gift of Roses" (Openshaw).
 9.17: Recital—Miss T. Jefferson, "Dagobert the Jester."
 9.20: Instrumental trio—Miss Eva Judd, Mr. Alex. Blyth, and Miss Muriel Caddie, "Nocturne in E Flat" (Chopin).
 9.25: Baritone solos—Mr. J. Alexander, (a) "Lay My Head Beneath a Rose," (b) "Annie Laurie."
 9.32: Pianoforte solo—Miss Muriel Caddie, "Coronach" (Barratt).
 9.37: Violin solo—Miss Eva Judd, "Mazurka" (Wieniawski).
 9.42: Contralto solos—Miss Gwen Cooper, (a) "Vale" (Russell), (b) "Hame o' Mine."
 9.48: Vocal solos—Mr. W. G. Hilliker.
 9.55: Instrumental trio—Miss Eva Judd, Mr. Alex. Blyth, and Miss Muriel Caddie, "Miserere" (Verdi).
 10.0: Close down.

Wednesday, September 7th.

1YA (333 METRES)—WEDNESDAY, SEPTEMBER 7.

- 3 to 4.30 p.m.: Afternoon session.
 7.15: News and information session.
 7.30: Talk on "Jupiter and Saturn," by Mr. J. Collier.
 7.45: Close down.
 8.0: Chimes.
 8.1: Relay of overture from Prince Edward Theatre. Mr. Geo. Poore, conductor.
 8.16: Contralto—Miss E. Peace, (a) "Melisande in the Wood" (Chappell-Goetz), (b) "O Rowan Tree" (Wickens-Nairn).
 8.24: Baritone—Mr. W. Brough, "Prince Ivan's Song" (Allitsen).
 8.29: Elocution and lecture—Mr. L. Griffiths, talk on "Tropical Palms and Their Uses," with elocutionary prologue.
 8.39: Tenor—Mr. W. Harris, (a) "Land of Grana Chree" (Allan-Barnes), (b) "Sleep and the Roses" (Larway-Tate).
 8.46: Contralto—Miss E. Peace, "Softly Awakes My Heart" from "Samson and Delilah" (Duran-Saint-Saens).
 8.51: Baritone—Mr. W. Brough, (a) "The Joy Bird," (b) "The Last Hour" (Kramer).
 8.57: Tenor—Mr. W. Harris, "A Kiss in the Dark" (Chappell-Herbert).
 9.0: Weather report.
 9.1: Organ and vocal—Mr. Arthur Wilson, organ recital, assisted by Mrs. C. Turley, contralto. The programme for this hour will be: Mr. Arthur E. Wilson, "Seventh Toccata and Fugue in D Minor," by J. S. Bach; "Evening Song," by Bairstow; contralto solo, Mrs. C. Turley, "I Will Extol Thee," by Molique. Mr. Wilson, "Romanza" from the Symphony "La Reine de France," by Haydn; "Massa in de Cold, Cold Ground," by Lemare; "Thanksgiving," by Hosmer. Contralto solo, Mrs. C. Turley, "Over the Meadow," by Carew; Mr. Wilson, "Narcissus," by Nevin. Introduction to Act III of "Lohengrin" (Wagner).
 10.0: Close down.

2YA.—WEDNESDAY, SEPTEMBER 7.—SILENT.

3YA (306 METRES)—WEDNESDAY, SEPTEMBER 7.

- 2.30 p.m.: Rebroadcast 2YA description Ranfurly Shield match, Canterbury v. Manawhenua (if played).
 3 p.m.: Afternoon concert session.
 6.0: Children's session, by Uncle Jack.
 7.15: Addition stock market reports.
 7.30: News and reports.
 8.0: Chimes. Relay of orchestral selections from Grand Picture Theatre Orchestra, under direction of Mrs. Black.
 8.15: Banjo solo—Mr. Sydney Gibson, "Don't Sing Aloha When I Go" (Moret).
 8.20: Contralto solo—Miss Dorothy Sharp, "Happy Song" (Del Riego).
 8.24: Piano duet—Miss Alice Searell, L.A.B., and Mrs. A. L. Jones, "First Movement of Second Symphony" (Beethoven).
 8.31: Bass solo—Mr. Bernard Rennell, "Three Spanish Love Songs" (Loth).
 8.37: Steel guitars and ukuleles—Miss Elaine Moody and party, (a) "Waltz of Love" (M.S.), (b) "Somewhere in Honolulu" (M.S.).
 8.42: Male alto solo—Mr. William Lowry, "Requiem" (Flower).
 8.45: Violin solos—Miss Mary Ward, "Menuet" (Bach).
 8.51: Contralto solo—Miss Dorothy Sharp, "Bird of Blue" (German).
 8.54: Clarinet solos—Mr. S. E. Munday, (a) "Spring Song" (Mendelssohn), (b) "Spring's Awakening" (Bach).
 9.0: Talk—Capt'n E. R. W. Hayter, "A Cruise in a Cockleshell."
 9.16: Bass solo—Mr. Bernard Rennell, "Song of the Clock" (Burchell).
 9.20: Banjo solo—Mr. Sydney Gibson, "To-night's My Night With Baby" (Meyer).
 9.25: Pianoforte duet—Miss Alice Searell, L.A.B., and Mrs. A. L. Jones, "Second Movement of Unfinished Symphony" (Schubert).
 9.30: Male alto solo—Mr. William Lowry, "Oft in the Stilly Night" (Moore).

- 9.34: Violin solos—Miss Mary Ward, (a) "Scherzo" (Dittersdorf-Kreisler), (b) "Cradle Song" (Tor Aulin).
 9.38: Soprano and contralto duet—Misses Kathleen and Dorothy Sharp, "Venetian Song" (Tosti).
 9.42: Steel guitars and ukuleles—Miss Elaine Moody and party, "Mahina Malama" (M.S.).
 9.46: Male alto solo—Mr. William Lowry, "On Wings of Song" (Mendelssohn).
 9.50: Clarinet solo—Mr. S. E. Munday, "Down in the Deep Cellar" (Kroepsch).
 9.55: Bass solo—Mr. Bernard Rennell, "Cartload of Hay" (Adams).
 10.0: Close down.

4YA.—WEDNESDAY, SEPTEMBER 7.—SILENT.

Thursday, September 8th.

1YA (333 METRES)—THURSDAY, SEPTEMBER 8.

- 3 to 4.30 p.m.: Afternoon session.
 7.15: News and information session.
 7.30: Talk by Mr. E. H. Skeates on "The Garden."
 7.45: Close down.
 8.0: Chimes.
 8.1: Relay of overture from Rialto Theatre. Mr. Henry C. Engel, conductor.
 8.16: Vocal—Bohemian Duo, latest hits.
 8.23: Violin—Miss P. Best, (a) "Liebesfreud" (Schott-Kreisler), (b) "Minuet" (Harris-Beethoven).
 8.30: Baritone—Mr. H. Barry Coney, "Sons of the Sea" (Novello-Coleridge Taylor).
 8.35: Piano—Mr. Cyril Towsey, "Nocturne in F Sharp Major" (Chopin).
 8.40: Elocution—Mr. T. Harris, (a) "An Old Sweetheart of Mine" (Riley), (b) "The Old Man and Jim" (Riley).
 8.45: Soprano—Mrs. Cyril Towsey, "Sea Wrack" (Harty).
 8.49: Instrumental trio—The Eric Waters Trio, (a) "Autumn and Winter" (Glazounow), (b) "Slow Movement from Trio, E Major" (Chaminade).
 8.56: Tenor—Mr. A. Ripley, "A Spirit Flower" (Tipton).
 9.0: Weather report.
 9.1: Relay from Rialto Theatre.
 9.16: Vocal and instrumental—Bohemian Duo, popular numbers.
 9.24: Violin—Miss P. Best, "Slumber Song" (Bosworth-Squire).
 9.28: Baritone—Mr. B. Coney, (a) "I Was Not Sorryful" (Boosey-Ireland), (b) "Sois Heureuse" (Williams-Thomas).
 9.36: Piano—Mr. C. Towsey, "Impromptu in B Flat Major" (Schubert).
 9.41: Elocution—Mr. T. Harris, "The Brave Old Duke of York" (Squires).
 9.46: Soprano—Mrs. C. Towsey, "Bredon Hill" (Young).
 9.50: Instrumental trio—The Eric Waters Trio, (a) "Serenade" (Schubert), (b) "Valse des Fleurs" (Tschalkowsky).
 9.56: Tenor—Mr. A. Ripley, (a) "Eily Mavourneen," (b) "Happy Song" (Del Riego).
 10.3: Close down.

2YA (420 METRES)—THURSDAY, SEPTEMBER 8.

- 3 to 5 p.m.: Afternoon session.
 3.30: Lecturette—Madame Britten.
 7 to 7.30: News session and market reports.
 7.34: Lecturette, by Mr. W. King, "Esperanto," lesson No. 6.
 7.54: Close down.
 8.0: Chimes of the G.P.O., Wellington.
 8.1: Relay of the Paramount Theatre Orchestra.
 8.16: Band—Central Mission, march, "Caractacus" (arr. Layman).
 8.21: Soprano solo—Miss Zita Casey, "Micael's Song" from "Carmen," "I Said There Was Nothing to Fear" (Bizet).
 8.25: Cornet solo—Bandsman McPherson, "The Nightingale" (Moss).
 8.33: Mezzo-soprano solo—Miss Grace Robertson, "The Blacksmith" (Brahms).
 8.37: Band—Central Mission, selection, "The Magic Flute" (Mozart).
 8.48: Bass-baritone—Mr. J. H. Lee, "Why Shouldn't I?" (Russell).
 8.52: Band—Central Mission, waltz, "Love and Laughter" (Pecorini).
 9.0: Weather report.
 9.1: Relay of Paramount Theatre Orchestra, under direction of Mr. Robt. Caulton.
 9.6: Lecturette—Mr. Johannes Andersen, "Native Birds."
 9.21: Band—Central Mission, "The Challenge" (Calvert).
 9.26: Soprano—Miss Zita Casey, "Serenade" (Gounod).
 9.30: Band—Central Mission, fantasia, "Gems of the Old Days" (Newton).
 9.40: Mezzo-soprano—Miss Grace Robertson, "Love's Old Sweet Song" (Molloy).
 9.44: Band—Central Mission, "Nursery Ditties" (Raymond).
 9.52: Bass-baritone—Mr. J. H. Lee, "Cape Horn Gospel" (Keel).
 9.56: Band—Central Mission, march, "The Contemptibles" (Stanley).

3YA (306 METRES)—THURSDAY, SEPTEMBER 8.

- 3 p.m.: Studio concert.
 3.45: Talk—"Fashions: Millinery and Frocks," by Mr. N. Dood, of the D.I.C.
 7.15: News and reports.

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1YA FEATURES (Continued).

Mr. Thomas Harris, a well-known teacher of elocution, will render three numbers which should be looked forward to. Mr. Harris appears for the first time on a 1YA programme, but is well known on the concert platform in the city. Catering for the popular taste are the Bohemian Duo, who are always appreciated in their Hawaiian selections and latest hits.

This programme will undoubtedly be one of exceptional merit and listeners will find the programme fittingly terminated by Mr. Arthur Ripley's singing of "The Spirit Flower," by Tipton. Mr. Ripley's other numbers will be "Happy Song" by Del Riego, and "Eily Mavourneen."

MR. DUNCAN BLACK.

The recent Scottish concert at 1YA was universally appreciated, being one of the most enjoyable sent out by 1YA. The organiser of that concert was Mr. Duncan Black, whose glorious bass voice was so much admired. Listeners will welcome him back to the microphone.



MR. ARTHUR COLLEDGE.

Mr. Colledge is a well-known bass, who has acted as soloist on many occasions with the Auckland Choral Society. He is a member of the St. Andrew's Quartet, and apart from studio performances, is often heard in relays from St. Andrew's Church.

phone on Friday evening, when he will sing "Devonshire Cream and Cider," and "The Brave Old Oak." He will also be heard in a duet with Miss Bentley.

The same evening will appear Master David Campbell, a boy soprano, who has gained much success at the Auckland competitions. He will sing three songs.

Mr. Clinton Williams, who has been associated with Mr. Arthur Wilson in his organ recitals, will sing at the studio for the first time. He is a baritone of the first grade. Among his items will be "Friend of Mine," and "The Crown of the Year."

Mr. Powell Rogers, the violinist, will contribute selections, one being "Scottish Melodies," and the others "Souvenir" and "Barcarolle."

Lady vocalists for the evening will be Mrs. A. Wallis (contralto), and Miss E. Bentley (soprano).

The first half-hour of the evening's programme will be relayed from Messrs. John Court's, Ltd.

(Continued next page).

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Programmes Continued

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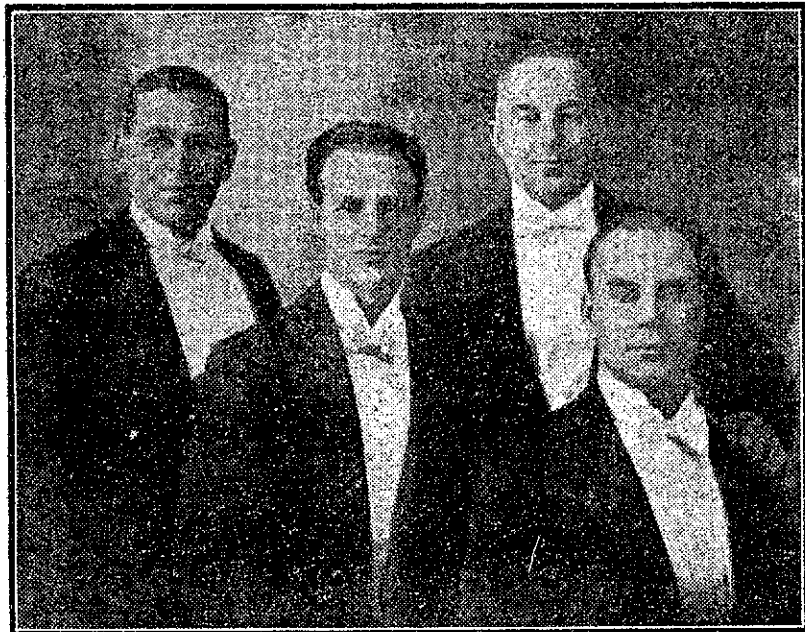
Thursday, September 8th.

3YA (CONTINUED).

- 7.30: Talk, by Mr. A. W. Hudson, of Canterbury Progress League, "Top Dressing of Pastures in Canterbury."
 8.0: Chimes. Relay of orchestral selections from Strand Picture Theatre Orchestra, under direction of Mr. Harry Ellwood.
 8.15: Pianoforte solos—Miss Eileen Carter, (a) "An Old Garden" (Macdowell), (b) "With Sweet Lavender" (Macdowell).
 8.24: Bass solo—Mr. F. E. Cossins, "She Alone Charmeth My Sadness" (Irene), (Gounod).
 8.28: Flute solos—Mr. W. Hay, (a) "Pastorale Dance" (German), (b) "First Valse" (Durand).
 8.34: Contralto solo—Miss Jessie Ewart, "One Sweetly Solemn Thought" (Ambrose).
 8.38: Instrumental trio—Misses Joan, Eileen, and Charlotte Carter, "Aida" (Verdi).
 8.45: Soprano solos—Miss Frances Hammerton, "Depuis le Jour" (Louise), (Charpentier).
 8.48: Clarinet solo—Mr. E. Withers, "Concerto, Op. 26" (Weber).
 8.53: Bass solo—Mr. F. E. W. Cossens, "Sonny" (Wilnot).
 9.0: Interval and weather report.
 9.5: Relay from Strand Theatre.
 9.20: Violin solos—Miss Joan Carter, (a) "Chanson du nuit" (Elgar), (b) "Scherzoso" (Tor Adlin).
 9.26: Contralto solo—Miss Jessie Ewart, "My Treasure" (Trevalso).
 9.30: Flute solos—Mr. W. Hay, "Chant du Soir" (Speelman).
 9.34: Soprano solo—Miss Frances Hammerton, "Après une reve" (Faure).
 9.39: Clarinet solo—Mr. E. Withers, "Polonaise" from "Mignon" (A. Thomas).
 9.41: Bass solo—Mr. F. E. Cossens, "The Two Grenadiers" (Schumann).
 9.45: Cello solo—Miss Charlotte Carter, "Love's Old Sweet Song" (Molloy).
 9.49: Contralto solo—Miss Jessie Ewart, "If I Might Come to You" (Squire).
 9.52: Instrumental trio—Misses Joan, Eileen, and Charlotte Carter, (a) "Elegie" (Massenet), (b) "La Serenata" (Braga-Moffat).
 9.58: Soprano solo—Miss Frances Hammerton, "Slumber Song" (Bemberg).
 10.0: Close down.

4YA (463 METRES)—THURSDAY, SEPTEMBER 8.

- 7 p.m.: Town Hall chimes.
 7.1: Request gramophone recital.
 8 to 10 p.m.:—
 8.0: Town Hall chimes.
 Relay from His Majesty's Theatre of concert by the band of the First Battalion, Otago Regiment. Conductor, Mr. Lew Asten.



—Crown Photo.

THE LYRIC QUARTET.

Reading from left to right:—Mr. Herbert Richards, second tenor; Mr. Arthur Ripley, first tenor; Mr. Alan McElwain, baritone, and Mr. Ernest Thomas, bass. This combination is probably the most popular broadcast item from 1YA, and it constitutes the best known male quartet in the city. They are heard at regular intervals from this station, and in addition, Mr. Ripley is frequently heard in solo numbers.
 A feature of the Quartet's performances are Mr. McElwain's humorous numbers.

1YA Continued.

SANG TO THE PRINCE.

Mr. Albert Warbrick, baritone, who was one of those selected to sing before the Prince of Wales during the Royal visit to Rotorua some years ago, will contribute to the entertainment at 1YA on Saturday evening. He will sing "Sea Fever," "I Didn't Know," and the "Song of the Toreador" (from "Carmen"). Mrs. Fleming (violin), Miss M. Jones (contralto), and the studio pianist. The last named will play Mozart's "Sonata in A," selecting two movements, the variations and finale. The composition is typical of Mozart in that the music contains all the musical embellishments which characterise this composer. Mr. Clyde Howley's "Internationals" will provide dance music from Dixieland until 11 p.m.

AUCKLAND CHURCH SERVICE.

On Sunday, September 11, there will be the usual after-studio concert, and in the evening the service at the Church of Christ will be broadcast. The preacher will be Mr. Aldridge, and the organist Mr. Ivan Lambert. At 8.30 there will be a relay of the Municipal Band concert in the Town Hall, arranged by Mr. Christopher Smith.

2YA FEATURES

CHRISTIAN SCIENCE.

A Sunday afternoon lecture on Christian Science, to be given in the De Luxe Theatre at 3 o'clock on September 4, is to be relayed by 2YA.

In the evening, St. Andrew's Presbyterian Church service will be broadcast. The Rev. R. Howie will be the preacher.

After the church service a concert to be given in the Grand Opera House will be relayed.

INSTRUMENTAL MUSIC.

A well arranged programme of vocal and instrumental music is to be broadcast by 2YA on Monday. The Ngatawa Trio—Miss Howard, L.R.A.M., A.R.C.M. (piano), Miss Thompson, L.R.A.M. (violin), Miss Prenter, L.R.A.M. (cello)—is an artistic combination. Several concerted items will be given, including Mendelssohn's "Trio in C Minor" and Widor's "Serenade." Each member will also contribute solo items on piano, violin, and cello respectively, and, in addition, Miss Thompson, who has a fine mezzo-soprano voice, will sing "Nymphs" and "Shepherd's Song." The studio orchestra, which is now established in the estimation of listeners, will contribute several selections. Mrs. Townley (contralto) will sing "Fascination" and "Songs My Mother Taught Me." Mr. Eric Rishworth (tenor) and Mr. T. C. Wood (baritone) will also sing.

FINE ARTISTS FOR TUESDAY.

Mr. Harry Phipps, tenor, a well-known broadcaster, is to sing at 2YA on Tuesday. Associated with him will be Mr. W. W. Marshall, bass soloist to the Commercial Travellers' Choir and Royal Choral Union. His fine voice will be heard to advantage in "Myself When Young," "Roll on, Thou Deep and Dark Blue Ocean," and "The Bell at Sea." Another vocalist will be Mrs. Glen Grange (soprano), a well-known concert artist, and a member of several societies.

Lovers of organ music will be catered for by Mr. H. B. Brusey, whose selections will be relayed from the Terrace Congregational Church.

Flute and violin solos will be played by Mr. C. Tucker and by Mr. Allan Carr respectively, and items will be given by the studio orchestra.

BAND AND VOCAL ITEMS.

Band, orchestral, and vocal items will constitute the programme at 2YA on Thursday, and there is promise of an

(Continued on Page 11.)

- March, "Stars and Stripes" (Sousa).
 Overture, "Zampa" (Herold).
 Waltz, "Gold and Silver" (Strauss).
 Cornet duet, "Two Little Finches."
 Selection, "Faust" (Gounod).
 Selection, "Musical Switch" (Alford).
 Highland Patrol, "Wee Macgregor" (Ames).
 Dances, (a) "Minuet, No. 2" (Paderewski), (b) "Masken Polonaise" (Faulch).
 March, "Invincible Eagle" (Sousa).

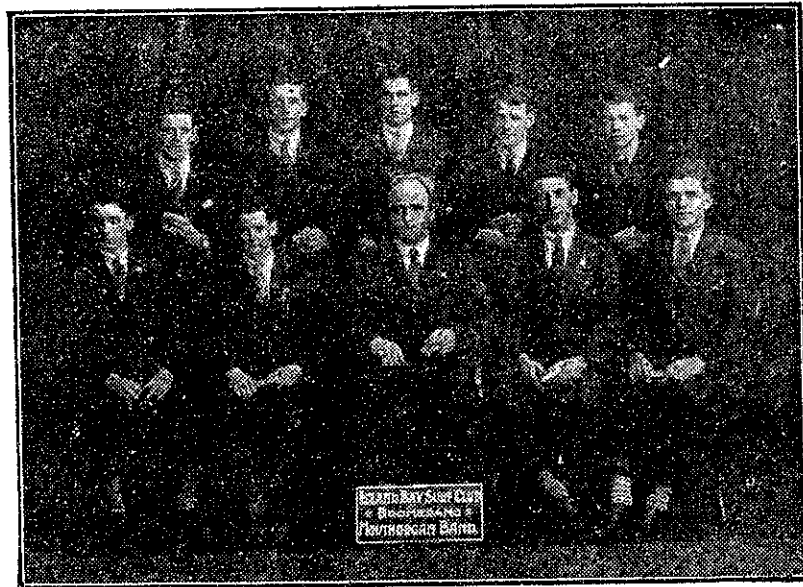
Friday, September 9th.

1YA (333 METRES)—FRIDAY, SEPTEMBER 9.

- 3 to 4.30 p.m.: Afternoon session.
 6.30: Children's session—Tom Thumb.
 7.15: News and information session.
 7.30: Talk on "Motoring," by Mr. Geo. Campbell.
 7.45: Close down.
 8.0: Chimes.
 8.1: Relay of concert from Messrs. John Court's, Ltd.
 8.50: Contralto—Mrs. A. Wallis, (a) "Vale" (Ashdown-Russell), (b) "Our Little Home" (Chappell-Coates).
 8.38: Violin—Mr. P. Rogers, Scottish melodies.
 8.43: Baritone—Mr. Clinton Williams, "Friend o' Mine" (Boosey-Sanderson).
 8.48: Boy soprano—Master David Campbell, (a) "The Moon Upon the Chimney" (Chappell-Rolt), (b) selected.
 8.56: Piano—Mr. S. Bretnall.
 9.0: Weather report.
 9.2: Bass—Mr. D. Black, "Devonshire Cream and Cider" (Boosey-Sanderson).
 9.7: Soprano—Miss E. Bentley, (a) "Pleading" (Novello-Elgar), (b) "Live, Laugh and Love" (Chappell-Klain).
 9.15: Violin—Mr. P. Rogers, (a) "Souvenir" (Drda), (b) "Barcarolle" (Offenbach).
 9.23: Contralto—Mrs. A. Wallis, "Allah Be With Us" (Boosey-Woodford-Finden).
 9.28: Duet—Miss Bentley and Mr. Black, "In the Garden of My Heart" (Allan-Ball).
 9.33: Baritone—Mr. C. Williams, (a) "The Crown of the Year" (Enoch-Martin), (b) selected.
 9.41: Boy soprano—Master Campbell, "I Pitch My Lonely Caravan at Night" (Chappell-Coates).
 9.46: Piano solos—Mr. S. Bretnall, selected.
 9.55: Bass—Mr. D. Black, "The Brave Old Oak" (Bailey-Ferguson).
 10.0: Close down.

2YA (420 METRES)—FRIDAY, SEPTEMBER 9.

- 3 to 5 p.m.: Afternoon session. Post Office chimes.
 6 to 6.30: Uncle Ernest.
 7 to 7.35: News session, market reports, and sports results.
 7.37 to 7.55: Lecture by Flight Lieutenant T. R. Grover, M.C.
 8.0: Chimes—Wellington G.P.O.
 8.1: Instrumental—Studio Orchestra, selected.
 8.16: Contralto solo—Miss Ivy Stanton, "You'll Get Heaps of Lickens" (R. Coningsby Clarke).



—Crown Photo.

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This is claimed to be the first band of this sort formed in New Zealand. It is headed by Mr. A. Dicker and will be "on the air" from 2YA on September 9.

- 8.21: Cornet solo—Mr. West, "Rule, Britannia" (Hartman).
 8.24: Tenor solo—Mr. Arthur Coe, "Like Stars Above" (Squire).
 8.27: Island Bay Boomerang Mouth-organ Band, selected airs.
 8.32: Mezzo-soprano—Mrs. E. Wood, "Tit for Tat" (Pontet).
 8.36: Baritone—Mr. Wm. McLaurin.
 8.41: Clarinet—Leo Power, "Impromptu" (Barrisan).
 8.46: Instrumental—Studio Orchestra, selected.
 9.0: Weather report.
 9.1: Lecture—Editor-Announcer, "Imperial Affairs: The Imperial Conference."
 9.12: Contralto—Miss Ivy Stanton, "I Did Not Know" (Beethoven).
 9.14: Cornet—Mr. West, "Answer" (Robyn).
 9.18: Instrumental—Studio Orchestra, selected.
 9.30: Tenor—Mr. Arthur Coe, "Lilies of Lorraine."
 9.34: Mezzo-soprano—Mrs. E. Wood, "Meadow Sweet" (May H. Brahe).
 9.39: Island Bay Boomerang Mouth-organ Band, selected airs.
 9.44: Baritone—Mr. Wm. McLaurin.
 9.49: Clarinet—Mr. Leo Power, "Refrette d'Armour" (Paul de Bille).
 9.54: Instrumental—Studio Orchestra, selected.
 10.10: Close down.

3YA (306 METRES)—FRIDAY, SEPTEMBER 9.

- 3 p.m.: Afternoon concert session.
 7.15: News and reports.

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Programmes Continued

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- 8.0: Chimes. Relay of orchestral selections from Everybody's Picture Theatre Orchestra, under direction of Mr. W. J. Bellingham, F.S.M.
 8.15: Soprano solos—Miss Evelyn Hill, (a) "The Blackbird's Song" (Scott), (b) "That Little Cottage" (Burgess).
 8.21: Zither-mandolin solos—Miss Gwen Webster, (a) "Barcarolle" (Offenbach), (b) "Miserere" ("Il Trovatore"), (Verdi).
 8.26: Mezzo-soprano solos—Miss Jean Johnson, (a) "Gentle Shepherd" (Pergolesi), (b) "The Ships of Arcady" (Head).
 8.32: Novelties on the piano—Mr. Ivan Perrin, (a) "March Hongroise" (Kowalski), (b) "Improvisations" (M.S.), (c) some extemporaneous novelties on the piano.
 8.40: Recitation—Mr. James Laurenson, "Not Understood" (Bracken).
 8.44: Organ solos—Mr. Robt. E. Lake, (a) "Triumphal March" (Lemmens), (b) "Festal Commemoration" (West), (c) "Chanson" ("In Love"), (Friml).
 9.5: Relay from Everybody's Theatre.
 9.15: Soprano solo—Miss Evelyn Hill, "Don't Come In, Sir, Please" (Scott).
 9.19: Zither-mandolin solo—Miss Gwen Webster, "Aloha Oe" (M.S.).
 9.22: Soprano and mezzo-soprano duet—Misses Evelyn Hill and Jean Johnson, "I Heard a Voice in the Tranquil Night" (Glover).
 9.32: Sketch—Mr. James Laurenson, "The Chairman's Remarks" (Stewart).
 9.36: Organ solos—Mr. Robt. E. Lake, (a) "March" (Silas), (b) "Romance" (Tschalkowsky), (c) "Spring Song" (Mendelssohn), (d) "Imperial March" (Elgar).
 10.0: Close down.

4YA (463 METRES)—FRIDAY, SEPTEMBER 9.

- 3.0: Town Hall chimes.
 3.1: His Master's Voice recital.
 3.15: Afternoon tea music from the Savoy.
 3.30: Studio music.
 3.45: Music from the Savoy.
 4.0: Cookery talk, by Miss M. Puechegud.
 4.15: His Master's Voice recital.
 4.30: Close down.
 7 to 7.30: Children's session—Aunt Diana.
 7.30 to 7.45: News and market reports. Address arranged by W.E.A.
 8 to 10 p.m.:—
 8.0: Town Hall chimes.
 Relay from His Majesty's Theatre of grand concert by the Commercial Travellers' Club.

Saturday, September 10th.

1YA (333 METRES)—SATURDAY, SEPTEMBER 10.

- 3 p.m.: Football relay.
 7.15: Sports results and news session.
 7.30: Talk on "Your Car in Winter," by "Gargoyle."
 7.45: Close down.
 8.0: Chimes.
 8.1: Relay of overture from Strand Theatre. Eve Bentley, conductor.
 8.20: Baritone—Mr. A. Warbrick, (a) "Sea Fever" (Elkin-C. Clarke), (b) "I Did Not Know" (Leonard-Trotter).
 8.28: Violin—Mrs. Fleming, "Cavatina" (Cole-Raff).
 8.32: Contralto—Miss M. Jones, (a) "Just a-wearyin' for You" (Jacobs-Bond), (b) selected.
 8.40: Piano—Studio pianist, "Sonata in A—Variations and Finale" (Mozart).
 8.45: Baritone—Mr. A. Warbrick, "Song of the Toreador" from "Carmen" (Bizet).
 8.50: Violin—Mrs. Fleming, (a) "Lost Chord" (Sullivan), (b) selected.
 8.57: Contralto—Miss M. Jones, "Yonder."
 9.0: Weather report and sports results.
 9.1: Relay of dance music from Dixieland Cabaret by The Internationals, under Mr. Clyde Howley.
 11.0: Close down.

2YA (420 METRES)—SATURDAY, SEPTEMBER 10.

- 3 p.m.: Relay of football match.
 7 to 7.45: News session, market reports, and sporting results.
 8.0: Chimes—Wellington G.P.O. clock.
 8.1: Studio Orchestra, selected.
 8.10: Baritone—Mr. J. Smyth, "The Yeoman's Wedding" (Poniatowski-Boosey).
 8.15: Allen's Dance Orchestra—Two fox trots, "Bye, Bye, Blackbird" (Dixon-Albert's), "Just One More Kiss" (Owens-Allen's).
 8.25: Humorous song—Douglas Stark, "Glasca" (Fyffe).
 8.30: Allen's Dance Orchestra—Two fox trots, "Cairo" (Myers-Chappell), "Mary Lou" (Lyman-Albert's).
 8.40: Steel guitar—Mr. E. J. Palmer, "La Paloma" (Yraider).
 8.45: Allen's Dance Orchestra—Two fox trots, "Desert Blues" (Smoley-J. McDaniel's), "Baby Face" (Davis and Askt-Albert's).
 8.55: Songs at piano—Mr. Billy Hart, "A Lonesome Boy's Letter Back Home" (Harry Woods).
 9.0: Weather report.
 9.2: Allen's Dance Orchestra—Two waltzes, "Calling" (Lumsdaine-Albert's), and "Along Mian's Shores" (Warren-Foster).
 9.12: Solo—Mr. Will Mason, "Hats Off to the Stoker" (C. Arundale-Cramer).
 9.15: Allen's Dance Orchestra—Two fox trots, "Idolising" (Messenhimer-Allen's), "Just a Bird's-eye View" (Donaldson-Allen's).
 9.25: Baritone—Mr. J. Smyth, "The Bandalero" (Stuart-Chappell).
 9.30: Allen's Dance Orchestra—Two fox trots, "Blue Skies" (Berlin-Albert's), "Hello, Bluebird" (Friend-Davis).
 9.40: Scotch character-study—Mr. Douglas Stark, "The Postie" (Gibson-Reynolds).
 9.45: Allen's Dance Orchestra—Two fox trots, "Ain't She Sweet?" (Ager-Davis), "Who?" (Kern-Chappell).
 9.55: Steel guitar, Mr. E. J. Palmer, "Marcheta" (Hammerstein).
 10.1: Allen's Dance Orchestra—Two fox trots, "Oh, What Big Eyes You Have" (Khan-Albert's), "My Cutie's Due at Two-to-Two" (Von Tilzer).

2YA Continued.

excellent entertainment. Proceedings will be opened by the Paramount Theatre orchestra, a splendid combination, and the Central Mission Band will follow with the march "Caractacus." Other selections to be played by the band will be: "The Magic Flute," "Love and Laughter," "The Challenge," "Gems of the Old Days," "Nursery Ditties," and "The Contemptibles." A cornet solo will be played by Bandsman McPherson, entitled "The Nightingale." Some fine singers will be associated with the instrumentalists, notably Miss Zita Casey, Miss Grace Robertson, and Mr. J. H. Lee.

MISCELLANEOUS PROGRAMME.

Cornet, clarinet, and month organ will each help to entertain at 2YA on Friday. The cornetist is Mr. West, well and favourably known in Auckland. He will play the rousing "Rule Britannia" and "Answer." Mr. Leo Power, well known for his ability on the clarinet, will play two selections, and two collections of assorted airs are promised by the Island Bay Boomerang Mouth Organ Band. This novel turn is likely to "go over" well. Vocalists who are assisting are Miss Ivy Stanton, Mr. Arthur Coe, and Mr. William McLaurin (baritone). Miss Stanton has a fine contralto voice. Mr. Coe (tenor) is a member of the Commercial Travellers' Choir and Aeolian Quartet. He is a soloist to the choir, the Harmonic and Orpheus Societies.



—S. P. Andrew, photo.
MR. B. H. HART.

Mr. "Billy" Hart made his first appearance at the Regent Theatre, Wellington, under Mr. Mel. Lawton. "Billy" has already broadcast from 2YA a few popular numbers, including: "I'm Tellin' the Birds," "Oh! If I Only Had You," "That's a Good Girl," "Meadowlark," and "I'm Looking at the World Through Rose-Coloured Glasses." Billy's voice is just correct for radio work; he has cultivated with excellent results the semi-whispering style, and will be heard regularly from 2YA with the newest and popular numbers.

SATURDAY NIGHT AT 2YA.

A special dance evening programme has been arranged for 2YA on Saturday, September 10—a most attractive week-end entertainment. Mr. Billy Hart will be at the piano, and will sing as well. Mr. J. Smyth, with a fine baritone voice, will render "The Yeoman's Wedding" and another old favourite, "The Bandalero," also "The Charmed Cup." Mr. Douglas Stark, who broadcasts much Scottish to the evident pleasure of listeners, will recite "Glasca," and a Scottish character study entitled "The Postie." Mr. Will Mason will entertain with "Hats off to the Stoker" and "Tops! Halyard." "La Paloma" and "Marcheta" will be played on a steel guitar by Mr. E. J. Palmer. The above are some of the items which will intersperse the dance music which is to be played by Allen's Dance Orchestra. A programme of captivating fox-trots has been drawn up, and 2YA will help dancers through the whole country to make a night of it.

3YA ATTRACTIONS

SUNDAY IN CHRISTCHURCH.

Following on the children's service in the studio, the evening service at Durham Street Methodist Church will be broadcast on September 4. The preacher will be the Rev. W. A. Hay. The service will include special solos and choral numbers. After the church service a musical programme will be broadcast from the studio.

BAND MUSIC ON MONDAY.

Monday concerts are a feature of 3YA entertainments. The programme is supplied by one of Christchurch's excellent bands and assisting artists. This week the band of the 1st Canterbury Regiment will supply the instrumental music. A number of splendid items have been selected.

Miss Mabel Hobbs, who has appeared before at 3YA to the great acceptance



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- 10.11: Songs at the piano—Billy Hart, "Mary Lou" (Lyman-Albert's).
 10.14: Allen's Dance Orchestra—Two waltzes, "So Blue" (Albert's), "Don't You Understand?" (Chappell).
 10.24: Baritone—Mr. J. Smyth, "The Charmed Cup" (Roschel-Enoch).
 10.29: Allen's Dance Orchestra—Two fox trots, "Meadow Lark" (Florito-Albert's), "Cock-a-Doodle" (Johnston Bibi-Bloem and Lang).
 10.39: Solo—Mr. Will Mason, "Tops! Halyard" (E. Hantly-Frederick Harris).
 10.43: Allen's Dance Orchestra—Two fox trots, "Song of the Wanderer" (Moret-Allen's), "Drifting and Dreaming" (Alstynne-Albert's).
 10.53: Allen's Dance Orchestra—Two waltzes, "Honolulu Moon" (Laurence-Allen's), "After a While" (Davis and Askt-Mateison).

3YA (306 METRES)—SATURDAY, SEPTEMBER 10.

- 2.45 p.m.: Relay from Monica Park—Description of League match, Canterbury v. Auckland.
 6.0: Children's session, by Uncle Jack.
 7.15: News.
 7.30: Sporting results.
 8.0: Chimes. Relay of orchestral selections from Crystal Palace Picture Theatre Orchestra, under direction of Mr. A. J. Bunz.
 8.15: Baritone solos—Mr. Leslie Stewart, (a) "One Golden Hour of Dreams" (Ryde), (b) "Ten Thousand Years from Now" (Ball).
 8.21: Zither-banjo solos—Mr. Jack Oxley, (a) "Georgia Medley" (Morley), (b) "To-night's My Night With Baby" (Meyer and Butternuth).
 8.30: Humorous solos—Mr. C. O'Connor, (a) "Jus' a Bird's-eye View" (Donaldson), (b) "Then I'll Be Happy" (Friend).
 8.36: Baritone solo—Mr. Leslie Stewart, "The Little Hero" (Adams).
 8.40: Cornet solos—Mr. H. L. Oakes, (a) "Sally Horner" (anon.), (b) "For You," with violin obligato by Mr. Esmond Harper (Montague).
 8.46: Piano duet medleys—Mr. and Mrs. Leslie Stewart, "Popular Melodies" (M.S.).
 8.50: Zither-banjo solo—Mr. Jack Oxley, "Sunset on the St. Lawrence" (Heller).
 8.54: Humorous solo—Mr. C. O'Connor, "Where'd You Get Those Eyes?" (Donaldson).
 8.58: Cornet solos—Mr. H. L. Oakes, (a) "I Love You Truly" (Bond), (b) "I'm a-wearying for You," with violin obligato by Mr. Esmond Harper (M.S.).
 9.5: Relay of orchestral selections from Kashmiri Cabaret, under Mr. Les Grummit.
 10.0: Close down.

Sunday, September 11th

1YA (333 METRES)—SUNDAY, SEPTEMBER 11.

- 3 to 4.30 p.m.: Selected items from studio.
 6.55: Relay of church service from Church of Christ, West Street. Preacher, Mr. Aldridge. Organist, Mr. I. Lambert.
 8.30: Relay of Municipal Band from Town Hall.
 9.30: Close down.

2YA (420 METRES)—SUNDAY, SEPTEMBER 11.

- 6.55 p.m.: Relay of church service from The Terrace Congregational Church. Preacher, Rev. Ernest Weeks.
 8.15: Relay of band concert from His Majesty's Theatre, Wellington Municipal Tramways Band. Conductor, Mr. T. Goodall.

3YA (306 METRES)—SUNDAY, SEPTEMBER 11.

- 5.45 p.m.: Children's evening service from 3YA Studio.
 6.30: Relay of evening service from St. Alban's Methodist Church, Rugby Street. Preacher, Rev. L. B. Neale; conductor, Mr. W. Simpson; organist, Miss Eleanor Lovell-Smith.
 7.45: The following sacred concert will be given from the church after the evening service: Solo, Mrs. L. B. Neale, "He Knows the Way" (Briggs); anthem, choir, "Lead, Kindly Light" (Buck); solo, Mr. E. Harrison, "The Lost Chord"; quartet, Mrs. L. B. Neale, Mrs. W. Stallard, and Rev. L. B. Neale and Mr. C. Hindle, "Depth of Mercy"; anthem, choir, "The Lord God Omnipotent Reigneth"; solo, Mr. C. Hindle, "O Song Divine" (Temple); solo, Mrs. Stallard, "Fear Not Ye, O Israel" (Buck); anthem, choir, "God So Loved the World" (Pearson); solo, Mrs. W. H. Hindle, "Open the Gates of the Temple" (Knott); anthem, choir, "Saviour, Thy Children Keep."
 8.30: Address from 3YA Studio, by Mr. Allan Wilkie, Shakespearean producer, entitled "Shakespeare in Our Daily Speech," to be followed by musical items.
 9.0: Close down.

4YA (463 METRES)—SUNDAY, SEPTEMBER 11.

- 6.30 p.m.: Relay of service from St. Paul's Cathedral. Preacher, Rev. Canon Nevill. Organist, Mr. E. Heywood, F.R.C.O.
 8 to 9 p.m.: Studio concert.

A FEAST OF MUSIC

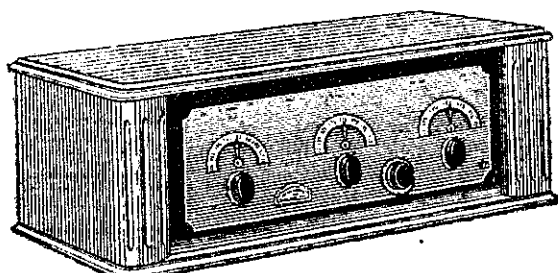
A programme of musical gem will be broadcast by 3YA on Wednesday.

Some splendid talent, vocal and instrumental, has been engaged. Heading the vocal section are two male voices, Mr. Wm. Lowry and Mr. Bernard Renell. Mr. Lowry (alto) is one of the Cathedral lay clerks. He toured with

(Continued next page.)

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3YA Continued.

The Westminster Glee Singers. He has chosen to sing "Requiem," "Off in the Still Night," and "On Wings of Song." Mr. Rennie has a bass voice and is a great favourite on 3YA. The songs which he will sing on Wednesday evening will demonstrate the range of his repertoire. His selections include three Spanish love songs, "The Song of the Clock" and "Carload of Hay." All who heard Miss Alice Searell, L.A.B., and Mrs. A. L. Jones play the first movement in the Second Symphony of Schubert will listen in to hear them play the second movement of Schubert's Unfinished Symphony and the first movement in the Second Symphony of Beethoven. These items will be specially good.

Miss Dorothy Sharp, a popular contralto, will sing "Happy Song" and "Bird of Blue."

Miss Elaine Moody and her party will regale listeners with items on steel guitars and ukulele.

Miss Mary Ward, an exceptionally good violinist, will play three solos, Mr. S. E. Munday will contribute clarinet solos, which will be, as usual, very good, and Mr. Sydney Gibson, with his banjolele, will help further to provide an A1 entertainment at 3YA.

ANOTHER FINE PROGRAMME.

Still another good concert is billed for 3YA on Thursday. The Carter Sisters—Misses Joan (violin), Charlotte (cello), and Eileen (piano)—all favourite artists on the radio, will contribute solos and trios.

Miss Jessie Ewart, contralto, a very popular singer, will render "One Sweetly Solenn Thought," "If I Might Come to You," and "My Treasure."

Mr. W. Hay, so well known as a flautist, will play three solos.

Miss Frances Hammeton will sing two French songs, and a slumber song. This young lady has a very sweet soprano voice. She appeared last at 3YA during one of Mr. Vernon Griffith's lectures. She is an authority on classical songs and is a lover of high-class music.

Mr. F. E. W. Cossins will make his second appearance at 3YA studio. His debut in radio was a triumph. Mr. Cossins will sing "She Alone Chatmeth My Sadness" (from "Irene"), "Sonny" and "Two Grenadiers." These songs should suit his fine bass voice.

Mr. E. Withers, an old favourite on the clarinet, will appear again. It is some time since he has been heard on the radio, and he is sure of a hearty welcome from the invisible audience.

MISCELLANEOUS CONCERT.

Miscellaneous will be the programme on Friday. Miss Evelyn Hill (soprano) and Miss G. Johnston (mezzo-soprano) will make their first appearance in radio. They will sing songs and duets.

Miss Gwen Webster's zither-mandoline solos will be "Barcarolle," "Miscere," and "Aloha Oe."

A novel turn will be provided by Mr. Ivan Perrin in his songs at the piano. He is a new performer at 3YA, and he will please everyone. His first item will be straight piece "March Hongroise," which will show his skill in

execution. Then will follow a series of improvisations which will demonstrate the versatility of the artist.

Mr. James Laurensen, the well-known elocutionist, is to recite Tom Bracken's poem, "Not Understood," and "The Chairman's Remarks."

A series of organ solos will be played by Mr. Robert H. Lake.

SATURDAY AT 3YA.

Entertainment of a light and chippy nature is to be provided on Saturday evening. Mr. Leslie Stewart is giving several new baritone numbers that will be popular with the public. Mr. Jack Oxley is bringing along his zither banjo, and Mr. C. L. Connor will sing humorous songs. Mr. H. L. Oakes will play cornet solos. He will be accompanied by Mr. Raymond Harper on the violin, and the result, while novel, will be pleasing. Mr. and Mrs. L. Stewart will play a pianoforte duet of popular melodies.

After this entertainment there will be a relay of dance music.

NEXT WEEK'S CHURCH SERVICE.

The service at St. Albans Rugby Street Methodist Church, where the Rev. L. B. Neale is the minister, will be broadcast on Sunday, September 11. From 7.45 to 8.30 a sacred concert will be given by the choir and soloists.

Prior to the church service a children's service will be broadcast from the studio, commencing at 6.45.

MR. ALLAN WILKIE.

Mr. Allan Wilkie, actor and producer of Shakespearean plays, is to speak at 3YA on Sunday evening, September 11, at 8.30. Following his address musical items will be broadcast from the studio.

4YA FEATURES

SUNDAY SERVICE.

On Sunday 4YA will relay the service from the Hanover Street Baptist Church. The preacher will be the Rev. E. S. Tuckwell, and his sermon will be the last of a series entitled "The Drama of the Prodigal Son." This address will be Act III, "The Return," Scene III, "The Elder Brother." The Rev. Tuckwell possesses a good broadcasting voice, and he will no doubt be listened to by a great many.

At the conclusion of the service a studio concert will take place.

AFTERNOON TALKS.

On Tuesday afternoon at 3.15 Miss M. Puechegud, continuing her series of talks on interior decoration, will deal with "Home Planning." In this address she will give some practical suggestions for obtaining the best possible effects, consistent with beauty and utility.

Mr. H. Greenwood, of the Dunedin Athenaeum, will review the week's new books during this session.

GETTING MARRIED.

An interesting programme has been arranged for the evening concert, when some of 4YA's most popular artists

will be heard. The items include a wide selection of ballad songs and favourite instrumental compositions.

At 8.45 p.m. Pastor W. D. More will again entertain with a most humorous address entitled "Getting Married." The fact that Mr. More is a clergyman should be sufficient guarantee of a very full knowledge of the subject.

GRAMOPHONE CONCERT.

On Thursday at 7 p.m. the weekly request gramophone concert will be heard. Judging from the request for items and the reports received, these concerts are extremely popular with many Otago listeners, and some of them show no uncertain preference for the finished artistry displayed in most records. Requests for items on Thursday's 7 o'clock programme always receive the best consideration. At 7.45 p.m. "Gargoyle" will address his remarks to motorists, when he will discuss "The Ignition System and Ignition Troubles," offering many useful hints.

MILITARY BAND CONCERT.

MAGNIFICENT PROGRAMME.

At 8 p.m. on Thursday a magnificent concert by the Band of the First Battalion Otago Regiment, under Mr. Lew Astin, will be relayed from His Majesty's Theatre. This full strength military band has made wonderful progress under the conductorship of Mr. Astin, who was formerly connected with the Australian Steel Workers' Band, and prior to that with a famous English military band, the Royal Marines.

This concert is the first of a series of three which are to take place each year, and the band has been working hard to ensure a high-class performance.

WAVE-LENGTHS

PRINCIPAL STATIONS

In our issue of August 19 a list of stations and wave-lengths occurred which was wrong, giving the old wave-lengths before the change-over. This item appeared in error. The explanation is that that particular item was overset matter from another publication handled by our printers which had been lying in their racks for some months—since before the change, as indicated by its nature. By misadventure it was lifted and incorporated in our pages without correction. The correct list is as below:—

Station.	Wave length.	Call sign.
Farmers and Co., Sydney	442	2FC
Broadcasters, Ltd., Sydney	353	2BL
Broadcasting Co., of Aust., Melbourne	371	3LO
Theosophical Broadcasting Station Ltd., Sydney	316	2GB
Associated Radio Co., Melbourne	484	3AR
Central Broadcasters, Ltd., Adelaide	305	5CL
Queensland Government, Brisbane	385	4QG
Western Farmers, Perth	1250	6WF
Associated Radio, Hobart	468	7ZL
N.Z. Broadcasting Co., Auckland	393	1YA
Ditto, Wellington	420	2YA
Ditto, Christchurch	305	3YA
Ditto, Dunedin	468	4YA

ESPERANTO

This week, by the publication of the sixth lesson of our Esperanto course, students are taken further into the study of the international language. The instructor announces, in reply to several inquiries, that students may obtain from him a complete and reliable text-book for 1s. 6d. post free. As previously published, inquiries relative to Esperanto may be made to "The Esperanto Instructor," N.Z. Broadcasting Co., Wellington, or care of "Radio Record." To ensure a reply, a stamped addressed envelope should be enclosed.

LESSON VI.

(To be broadcast from 2YA on September 8 from 7.39 to 7.54 p.m.)

BONAN VESPERON.

THE VERB.—Esperanto possesses three tenses and three moods. The ending -US, -AS, -OS, are used for the PAST, PRESENT and FUTURE tenses respectively. Li laborIS, he worked; li laborAS, he works; li laborOS, he will work.

The three moods are CONDITIONAL, IMPERATIVE, and INFINITIVE. The CONDITIONAL mood takes the ending -US. Se vi lernus, mi ankaŭ lernus, If you were to learn, I would also learn. The IMPERATIVE (command or order) mood takes the ending -U. Lernu Esperanton, Learn Esperanto. The INFINITIVE (indefinite) mood takes the ending -I. Paroli, to speak; promeni, to walk; take a walk; and viziti, to visit.

NOTE.—The tenses, -IS, -AS, -OS, are referred to as the INDICATIVE mood, in order to make the forms of the verb clearer. There is NO subjunctive mood, and it is not required. The English Subjunctive, in the Present Perfect, is represented by the Esperanto Imperative; and in the Pluperfect, Future, and Future Perfect, by the Esperanto Conditional mood.

WORDS: Knabo, boy; forpeli, to drive away; ĉu, whether (asks a question); vero, truth; hieraŭ, to-day; morgaŭ, to-morrow; deziri, to desire; devas, must; nomo, name; feliĉa, happy; scii, to know; estimi, to esteem.

La knabo forpelis la birdojn. Ĉu vi diros al mi la veron? Hierau estis merkredo, hodiaŭ estas ĵaŭdo, morgaŭ estos vendredo. Mi deziras lerni. Ni devas labori. Diru al mi vian nomon. Mi volas paroli al li. Li venu ne sole, sed kun sia plej bona amiko. Se mi estus sana, mi estus feliĉa. Se vi sciis kiu li estas, vi lin pli estimus. Bonan nokton.

To improve the appearance of the neighbourhood, Christchurch Urban Council, England, is supplying householders with neat wireless (radio) poles of an even size.



—Crown Studios, photo.

KIT-KAT BAND.

The popular Kit-Kat Band will be heard for the first time "over the air" from 2YA on September 16, and again later on, when a full dance programme will be given.

Mr. Ted Marchant (violin and soprano saxophone), leader of the band, has been heard before from 2YA. He is assisted by Mr. W. Pearce (piano), Mr. W. Ashworth (saxophone and clarinets), Mr. D. Henderson (banjo), and Mr. V. Shepherd (drums and effects). The combination provides the music regularly each Saturday evening at the Evans Bay Yacht Club, and is frequently heard at departmental dances. Mr. Ashworth was for twelve years in the British Medical Corp Band, and the other performers are all well-known.

INSTRUCTIVE ADDRESSES.

Ladies will hear some further hints on cookery when Miss M. Puechegud addresses the microphone on Friday afternoon. The speaker will give instructions for preparing dainty French dishes, but not necessarily expensive ones.

The evening session will include another address arranged by the Workers' Educational Association.

ANOTHER GRAND CONCERT.

At 8 p.m. a grand concert by the Commercial Travellers' Club will be relayed from His Majesty's Theatre, and something really good is promised for this night.

ST. PAUL'S CATHEDRAL.

The service at St. Paul's Cathedral will be broadcast on Sunday, September 11. The preacher will be the Rev. Canon Nevill. From 8 to 9 p.m. there will be a studio concert.

RADIO IN ZEPPELINS

Plans for the installation of trans-Atlantic air service by dirigibles next year have been made. It is proposed to operate between Seville, Spain, and Buenos Ayres, Argentina, a super-Zeppelin 675 feet long and 96 feet in diameter, with the conveniences of an ocean liner; and thereby cut the time of the voyage from seventeen days to three. Radio communication, of course, will be maintained continuously during the voyages. The capacity of the aerial vessel will be twenty-five passengers; and their quarters will have even a dance floor. Music, by radio, will be provided internationally, from New York, Paris or Berlin, as desired, and the trip will be a round of pleasure. Later the establishment of a similar service to cover a route between New York and the Continent will be attempted.

AFTER SEVEN YEARS

VOICE ACROSS THE TASMAN.

Listening-in at Goulburn, 130 miles from Sydney, on July 27, was a lady, Mrs. Mooney, who heard her sister, Mrs. Marshall, sing at 1YA. In advising the company, Mrs. Marshall says: "My sister heard my voice singing as though I had been in the room beside her, and she has not seen me for over seven years. She thought it so wonderful."

SEEING-IN

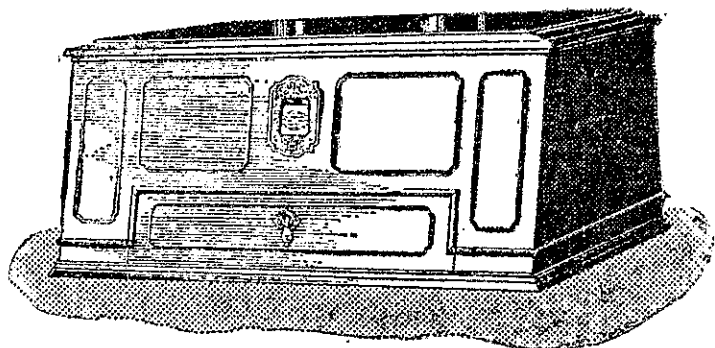
ON THE MARKET NEXT YEAR.

Denes von Mehaly, a young Hungarian, who is consulting engineer to the German General Electric Company, with 48 inventions to his credit, has perfected a remarkable apparatus whereby everything broadcast will be visible on a screen of about nine feet by sixteen feet. Von Mehaly is negotiating in the London market for money to finally launch his invention. He declares that he expects that in 1928 his set, which will be selling in England at the price of a two-valve receiver, will enable the people to see cinema plays, tennis matches, and boxing contests, together with the incidental words and sounds.

The invention is based on the same principle as wireless telephony. Therefore, Von Mehaly anticipates that it will be possible to relay seeing-in programmes the same as sound is relayed in broadcasting.

Huge motor generator units are used to supply the current to light the filaments of the transmitting valves of Station WJZ in Bound Brook, N.J. The current output of one of these generators alone is sufficient to light the valves of all the receiving sets in New York City simultaneously.

BREMER TULLEY



Counterphase Eight

The SET THAT RECEIVED 27 AMERICAN STATIONS IN ONE EVENING.

THE SET THAT RECEIVED NEW YORK AND CHICAGO. THE SET THAT GIVES DAYLIGHT RECEPTION FROM AUSTRALIAN STATIONS.

THE SET THAT WILL GIVE YOU SATISFACTION. THE SET YOU WILL ULTIMATELY BUY.

READ what one of our Clients has to say about the "COUNTERPHASE EIGHT"

TAIHAPE, 13/3/27.

"With regard to the reception of Canberra Broadcast on the Counterphase Eight: The items were picked up by Mr. T. H. Taitape. He commenced listening-in about 11.45 a.m. and picked up 2BL (Sydney) immediately. He heard them describing the Federal Hall and the position of the different stations. The band and procession announcing was heard quite clearly, and then the Duke's opening speech, followed by a bugle call. They listened to Sydney all the afternoon. Since then, Mr. Taitape says, he can get Sydney any afternoon he tries. I have heard the set on one occasion, and New York and Chicago were just as clear as 1YA, Auckland. Mr. Taitape says he picked up 27 American stations the first Sunday night he tried the set. I would not be surprised if he picks up London with the results he is getting."

Barnett's Radio Supplies, Upper Octagon, Dunedin.
Brechaut Bros., Stafford St., Timaru.
Hillman Bros., Alfred St., Blenheim.
Mack's Radio Ltd., 70-77 Kent Tce., Wellington.
F. H. Jellyman, Ltd., New Plymouth.
M. Ramsden, Whakatane.
Radio House, Victoria Street, Hamilton.
Geo. Rickard and Co., Kaitiaki.

G. T. Gillies, Thames St., Oamaru.
J. I. Small, Colombo Street, Christchurch.
G. Page and Sons, Ltd., Hardy St., Nelson.
Davies's Electrical Supplies, Union Street, Hawera.
D. A. Morrison & Co., Wanganui.
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W. J. Sinclair and Co., Gisborne.
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Pierce Aero, Elkay, Eclipse (all 4-valve sets); also the famous

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Amongst the Listeners

This is the Listener's Corner. It is available for reports of receptions from individuals; the correspondence of Leagues of Listeners and reports of their proceedings; constructive criticism or suggestions for the betterment of radio in general and the consistent improvement of the service that broadcasting can render in our community life. We wish this page to be the meeting-place of listeners and officials for the better understanding of points of view and the problems of others. It is a "Service" page, and we invite you to make use of it. Address all communications: Editor, "Radio Record," P.O. Box 1032, Wellington.

NORTH TARANAKI

At a meeting on August 23, the North Taranaki Radio Society passed the following resolutions:

(1) "That in view of the fact that Station 2YA is not giving New Plymouth listeners satisfactory service, this society urges that the Broadcasting Company of New Zealand Ltd., erect a relay station at New Plymouth at the earliest opportunity; meantime it suggests that the strength of 1YA be quadrupled in order to serve Taranaki listeners."

(2) "That this meeting of the North Taranaki Radio Society executive is of opinion that the recent activities of radio listeners, and the financial outlay involved in forming societies and leagues, have been more than justified, and draws attention to the improvements in radio broadcasting which has coincided with the general organisation of listeners, but stresses the need for continued activity and vigilance."

(3) "That the Government be asked to call a meeting of the advisory board at the earliest opportunity, that the meeting be open to the Press, and that the listeners' representative be afforded due recognition."

Our Mail Bag

Sunday Afternoons Wanted.

G.S.P. (Dunedin): May I suggest that many listeners like myself would appreciate some music on Saturday and Sunday afternoons? If each of your four stations took turns on these afternoons we could pick up that station and always have music on those two very desirable afternoons. As it is, all we can get on a Saturday is a football match, which every listener does not find attractive, although, of course, many do, I grant. The Christchurch Sunday afternoon oratorio some weeks ago was a real delight. Such music, of course, you cannot produce every Sunday afternoon, but gramophone records would be very acceptable. The interest in sporting broadcasts is remarkable, and the way they are handled by the Broadcasting Company makes entertainment even for those who do not follow outdoor games. We would suggest that Saturday afternoons be left to the sporting fraternity, without question. Sunday afternoon is different, and perhaps the Broadcasting Company would turn a sympathetic ear to you even at the risk of taxing an already overworked staff. So far there are no regular Sunday afternoon broadcasts, although some are put on as opportunity offers. We hope more will be.—Ed.]

Diversified Tastes.

Satisfied (Milton): "Your 'Radio Record' is greatly appreciated in my home. My youngest boy wants jazz, the oldest bands, the oldest girl or orchestral items, the wife hymns, myself sermons, and the baby howls. Could you arrange to have them all given at the same time, and we will get a loud-speaker for each? I thought it as well to enter the list of grumblers, but with the programmes from

1YA, 2YA, and 3YA we get a good selection to choose from and great results. We all sympathise with the officer in charge of 4YA (even the baby), and we hope it will not be long before his station can be classed with the others as A1."

A Crystal Enthusiast.

McN. (Lower Hutt) writes: "Being a radio enthusiast, I would like to tell you of the results I am obtaining from a 2 Brownie crystal set with a pair of 12s. 6d head 'phones. I have an aerial just short of 100ft., including the lead-in. My poles are 30ft. high, and by putting the head 'phones in two crystal tumblers I could hear, plainly, the sermon and band items on Sunday evening broadcast on relay by 2YA. As a matter of fact, the band music by the Port Nicholson Silver Band was clearly audible at a distance of 20ft. from the set, as we must be more than two miles (?) airline from 2YA. I think this a very creditable performance, and would be pleased to hear of other amateurs who are operating crystal sets and the results they are obtaining. I have listened in to various stations throughout Australia while resident there, and honestly consider 2YA, both as regards volume and quality of programmes, second to none. Also, I am sure 2YA's announcers are really excellent. They are deliberate in their announcing, and always appear to take a very keen interest in their work. For a country the size of old New Zealand I consider we have an excellent radio service, and I would conclude by quoting a Bairnsfather motto to those who are crying about not receiving good service, 'If they know of a better 'ole, go to it.' Best of good wishes."

Too Much Classic Stuff.

A Listener (Island Bay): "All in our house appreciate very much the weekly paper that you are issuing—'The Radio Record'—and would like to comment very favourably on the reception of the items broadcast from 2YA. The only thing is that the—I might say, bulk of the—owners are catered for very poorly in the selection of items. It makes one tired to hear the number of old songs that everybody who thinks they have a voice will sing time after time. The number of lighter, popular items that are broadcast could be considerably increased. It seems that the arrangements of the programmes are catering for the classical song audience too much. I, and many of my neighbours, very often close down for a whole evening or perhaps just tune in for the cabaret and theatre orchestras; while the bulk of our time is spent in listening to Sydney and Melbourne. A good deal more of the items such as are being put over by Frank Andrews, Ronnie and Monty, and Billy Hart would not weaken the programmes by any means."

Great Improvements.

Radio (Pieton): "I must write you a few more words of appreciation in regard to the quality of the programmes and the general tone of the stations. The improvements which have been made by the B.C. of late are simply wonderful, I think. Even the most exacting can surely find something to their liking in the host of items broadcast. Since the 'Record' first came out I have found reception steadily increasing in quality and volume—seems to me to have almost doubled. But the progress made in the programmes is surely beyond the dreams of the constant 'snivellers.' Your paper, too, deserves more than a fair share of praise for its handy, constructive articles and items of general news. In conclusion, there is no need to wish the 'Record' every success any more, it is getting it."

What a Boon is Radio.

M.C. (Faulding) writes: "I should like these lines to give you some idea of what a blessing wireless is to some of us. We have had our set about four months, and never fail to listen in. I am slightly deaf, and therefore never cared for concerts and such like, but with the head 'phones I can hear everything. The first Sunday we had our set I listened to the church service from Christchurch, the first service I had heard for twelve years. My hearing has improved immensely, and I can hear music in California without 'phones. I have a friend who is very deaf; I persuaded her to come and try the head 'phones. She heard everything, and said she had not enjoyed anything so well for many, many years. She has her own set now, and her hearing is greatly improved. Soon she hopes to hear the music without the 'phones. In conclusion I wish the Radio Broadcasting Co. every success, and thank you for the bright and cheery times you give us all."

Paparoa Reception.

An interested listener at Paparoa supplies these notes on local reception of various stations:—
Daylight.—1YA: Strong, steady, and clear. 2YA: Has been weak, but is improving; four valves gives good loud-speaker results; fairly steady, no distortion. 3YA: Very weak until about 4 p.m., when it comes in much

stronger. At 4.15 p.m. is sometimes stronger than 2YA; fades a little, no distortion.

Night.—1YA: Very strong, usually very clear, but occasionally a little distortion; swings somewhat in the early evening, but is very steady after about 8.30; no fading. 2YA: Strength about the same as 1YA; fades rather badly and frequently; very clear, no distortion. 3YA: Strong, fades frequently, no distortion; clearest of all N.Z. stations here; sometimes quite as loud as 1YA. 4YA: Extremely weak; takes five valves to bring in on speaker; clear, but fades somewhat.

Weather Reports.

B.L.H., Hawera: May I make a suggestion with regard to your weather reports that I think would be of better use to your country listeners, and would be no inconvenience to those in the town, and that is, that they be broadcast immediately after the 6 p.m. chimes from 2YA. In the country at this time of year most of us retire early, and only when friends are in, or anything special on, do we sit up until 9 p.m. Your paper is of great interest, and I follow others in saying that it fills a long-felt want.—[It is not from preference, but from necessity, that the weather report is announced at 9 o'clock. If the report were procurable earlier it would be announced earlier.]

Te Moana (Geraldine): The "Radio Record" is a very interesting paper, and we enjoy it greatly. The programmes are also very good, especially the three northern stations. There is just one suggestion that may be of interest to many of the children listeners-in, and that is that the 2YA Uncle should have his session on a Thursday instead of Friday evening, as it is the only evening in the week there is no children's session. Our kiddies seem quite lost with no wireless on a Thursday.—[The Broadcasting Company intends in the near future to have children's sessions every evening the three main stations are open.—Ed.]

The Amateurs.

R. G. Logan: In a recent issue of the "Radio Record," and under the heading of "Kaapoi Notes," I see a few lines in defence of the amateur transmitters who spoil concerts for the crystal set user. The correspondent who wrote these notes appears to have the idea that I would like to see the amateurs dumped in the sea altogether. I would not, as I recognise that they are doing good work. But they could still do that good work and keep off the air between 8 p.m. and 10. The writer says that I ought to learn how to tune my set. He is labouring under a delusion, for information from professional and amateur sources, as well as my own knowledge, shows that it is impossible to tune out the noise. The matter may now be dropped as far as Rangiora is concerned, as I believe there is a movement afoot among the Rangiora transmitters to keep quiet between 8 and 10 p.m.

A Dunedin View.

Wellington, 2YA, has been rather a disappointment to quite a number down here, considering the power it is supposed to be. Fading is very bad at times, and one has to sit down beside the set so as to control volume, as if set is delivering good volume one minute, the next it is hardly audible. Much is noticeable at times, but is not very bad, fading right out is worst fault. The "mike" the announcer uses seems to be much better than the rest, as his voice comes out clear, without any background of hiss. As for programmes they are quite satisfactory as far as I am concerned. 1YA and 3YA are not nearly so good, since the wavelength change, especially the latter station. Fading is bad from both, and 3YA goes off into a mush just when one wants to hear something. Possibly atmospheric conditions account for some of these troubles, as the "Aussie" stations are all, with the exception of 2FC, mushy at times, and all subject to fading, especially those last few weeks.

"Now for my real grouch: After the radio broadcast stations turn their programmes loose 'on the air' in good order and condition, do they not care how they are received? Is it a matter of no importance to the company that reception of programmes is completely spoilt at times by howling receiving sets, sometimes for the whole evening. The bedtime stories from Christchurch are almost always mutilated this way, and children cannot be bothered listening unless they can understand what is being said, clearly.

Power leaks are another serious source of annoyance, but they do stop sometimes for a day or two. Static, of course, we cannot help. The only thing that prevents many murders is the offenders with radiating sets are not within reach.

"Could the company not force the seriousness of the 'howling valve nuisance' home on to the public by giving frequent and forcible talks on the subject from all stations. This serious trouble certainly limits the number of listeners, and often completely stops the sale of radio sets as I know to my cost.

"Re power leaks, could the R.B.C. not approach the power supply authorities about leaky insulators on H.T. lines, loose connections, etc., as this trouble is second only to the howler."

"Now, this has been one long growl, but I can assure you the cause of it is unfortunately very real, as I could easily prove if I took the trouble to go round for signatures in verification."—I am, etc., W. TAYLOR. Dunedin.

[You will note our comments elsewhere regarding atmospheric and fading. So far as the "howlers" are concerned, though this is a matter of great importance to the company, it surely cannot be considered to be the company's duty to track them to their lairs. The company, we are sure, has its hands full already in putting programmes on the air. The Listeners' Leagues through the country have considered that this work is within their province, and rightly so. It is their duty, by every means in their power, to help the Government inspectors to suppress those who make the night hideous for listeners. The murderer of a 'howler' would be acquitted by a jury of valve set owners on the grounds of justifiable homicide! But we do not advocate any resort to Lynch Law!—Ed.]

Selecting the Programmes.

"Allow me to congratulate the Radio Broadcasting Company on the improvement of the programmes now provided for listeners-in," runs another letter. "Being a valve set owner, I am able to select my concerts from your four stations, and find the items so good that one wishes one could listen in and hear the lot at once. I am very content, however, to listen to any one item, as each and every one is a treat now. The concert provided from 2YA last Sunday evening was a great pleasure, every artist being first-class. This programme was refreshing after the over-doses of church music broadcast on Sundays."

"I have no suggestions to make, but I have a wish. It is with reference to the broadcasting of church services on Sundays. If practicable, could the more important denominations be represented every Sunday—Anglican, Presbyterian, Methodist—at one of your stations respectively?"—M.P.W.B., Canterbury.

[It should be possible to arrange this. No doubt it will be one of the duties of the new superintendent of programmes.—Ed.]

Delighted With Simplicity.

"Just a few words in appreciation of your broadcasting station. We know very little about wireless, but we have a small crystal set, and can get all your items beautifully. I have a small family, so have neither the time nor the opportunity of attending concerts, and to be able to stay home sewing or darning and yet 'listening-in' to the various items is very welcome. We greatly enjoy the orchestra. We were always under the impression that a great deal of 'tuning-in', etc., was necessary; our's has not been readjusted for a fortnight. Just connect up a couple of wires and there you are."

Whangarei on 2YA.

A Whangarei enthusiast makes these comments:—"Might I offer hearty congratulations on your programme to-night (Friday), from both a musical and technical point of view. From night to night since the official opening the transmission has steadily improved. Tonight's observations are as follow:—General hum practically indiscernible; modulation, especially voice, excellent; fading practically negligible; bad atmospheric interference badly with both 1YA and 3YA did not materially affect your programme; as regards volume, it is necessary to detune considerably using three stages of impedance audio."

Reconciled to Backblocks.

"We have just installed a wireless set, and we think that our station 1YA is fine indeed. Especially did we enjoy Friday and Tuesday's programmes. The organ recitals were glorious. We are away back here, shut off from the busy world. The quietness sometimes weighs upon my wife; but she told me that now she does not mind if she never sees town. Something for wireless!"—That's the verdict of a country listener.

Bands for Country Folk.

"I wish to express my appreciation of the great improvement, also the

sincere endeavour made by your company to give improved service. Despite the criticism, I consider the New Zealand stations compare favourably with the Australian stations. 1YA has greatly improved, 2YA and 3YA are very clear, but fade very badly, which is very disappointing. We sincerely hope something will be found to eliminate this great drawback. I also wish to express my appreciation, as well as that of many of my friends, of the Sunday afternoon programmes given at 1YA. I can assure you they are greatly appreciated, and it would be more so if the Municipal band could be switched on. Country people have not the opportunity of hearing good bands."—J.T., Cambridge.

Remember the Wide Circle.

"Reading some of the comments in the 'Radio Record,' it seems to me people don't remember the wide circle you have to cater for," says one writer. "As a listener-in for more than four years now, I consider it wonderful the improvements that have been made, both in tone and quality. The church services on Sundays must give great pleasure to hundreds of people unable to attend church. I know my own mother, an old lady, enjoyed it, as she was unable for a long time before her death to go to church. As I write this I am listening to the service broadcast from Christchurch. This is only one of many, many things we enjoy. As one who enjoys all the different programmes you put on, I thank you."

How to Get Dunedin.

"We have a five-valve wireless set by Giffillan, and the vendor gave us a list of several broadcasting stations, with the setting of the dials for each station. This was before the wavelengths of the New Zealand stations were altered, and now we cannot pick up 4YA at all. Will you kindly let us know by means of your valuable paper if there is any relation between the wave-length of a broadcasting station and the setting of the dials? We have noticed the symbols of several stations which we have not got on our list, and we should like to get them if possible. The New Zealand stations we have require the following setting:—1YA, Auckland (833 metres), 25, 27, 28; 2YA, Wellington (420), 44, 46, 48; 3YA, Christchurch (306), 19, 23, 24; 4YA, Dunedin (463); 5AR, Melbourne (484), 63, 64, 65. Thanking you in anticipation.—Yours, etc., O.D., New Plymouth."

[We suggest you try about 57, 58, 61, or thereabouts. 4YA would be comparatively weak with you.]

2YA Very Clear.

C.F.B., Roxburgh: We enjoy 2YA's concerts very much, and we can soon tell if you are giving out the details, for there is not one station which I pick up where we get it so clear and distinct as Wellington, although Christchurch and Brisbane are close second and third. The listener-in who is not satisfied with Wellington wants to see a doctor and have his head read. In regard to the "Radio Record" I think that if it was half the size and double the thickness it would be far better, for I am sure hundreds are keeping all copies for future reference.—On the last point, to halve our size would involve folding and slower production at heavier cost; more important still, it would certainly cost a day's mailing for many places. Under our present equipment and conditions the present size is unavoidable.—Ed]

Some Suggestions.

S. W. Iles (Waitemata): I am very interested in the various articles in your paper, and rather amused at one entitled "Don't Meddle." The author thereof presumably is a radio dealer who doesn't believe in amateurs trying to learn anything about their sets. Has it ever occurred to him that if his slogan of "don't meddle" had been strictly adhered to we should never have had wireless, the telephone, and many other marvels due to man's inherent curiosity to find out what makes things go.

Now, re programmes. I am indeed pleased to note such a marked improvement, and listeners have now little cause to grumble. There are, however, one or two points in which they could be further improved. 1YA and 2YA both have Thursdays for band nights. This is an error which could easily be rectified, and would be greatly appreciated if it was. Again, it is hardly fair that Saturday nights from 9-11 should be devoted to jazz at 1YA, 2YA, and 3YA. If 2YA gives jazz the others should arrange differently, or else give alternate Saturdays. Also, why is it that we hardly ever hear piccolo, clarinet, and oboe solos. These should be good "over the air."

If you are located near a powerful local station which interferes with you, erect your aerial so that it will be at right angles to the station. This will greatly improve reception.

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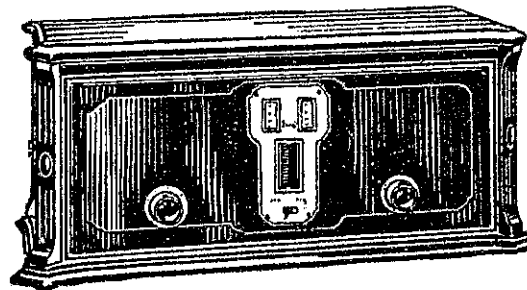
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CONDENSERS

There are some parts of a wireless circuit in which condensers are essential, and others in which they are not essential though very desirable. Many beginners in radio observe their more advanced friends putting condensers into their sets here and there, without any apparent regard either for their position or their capacity value, and the newcomer is often at a loss to know just where and when a condenser is going to be of use to him.

The more "optional" places for condensers are across the windings of the H.T. transformers, across the high-tension battery, and as a shunt on the 'phones or loudspeaker.

By-pass Condensers.

As a general rule, any piece of apparatus in a wireless circuit which has a high resistance (or "impedance") to be more correct should have a "by-pass" condenser connected across it in order to provide an easy path for the high-frequency currents.

Of course, the ease of passage of the high-frequency currents through the condenser depends upon the capacity of the latter, and in special cases (as, for instance, in the case of the tuning condenser) the value of the condenser has to be chosen or adjusted very carefully; it is not, in other words, merely a "by-pass" condenser.

The first place for a by-pass condenser is across the primary winding of the first interval transformer. The current which is intended to flow through this winding is the rectified current from the detector, but there is a small H.F. current as well. This will not pass through the primary winding of the transformer if a suitable by-pass condenser is provided. A common value for this condenser is 0.001 mfd.

Across the H.T. Battery.

The next position for a by-pass is across the high-tension battery. The resistance of the H.T. battery is a matter for conjecture; in a new battery it is comparatively small, perhaps 50 to 100 ohms, but in a battery which has been in use for some time, the resistance is apt to rise very considerably. The effect of this resistance is much more serious in a multi-valve set and in certain special types of circuit, when the one H.T. battery is common to all the valves. The internal resistance of the battery and its ill-effects can be overcome, however, by the simple expedient of placing a large capacity condenser across its ends.

By "large capacity" in this connection is meant a condenser of anything from 0.1 mfd to 2.0 mfd.—the larger the better. This condenser is sometimes referred to as a "blocking condenser." It is certainly worth while to include it, even when the battery is new, and you will often be surprised at the improvement in reception.

For these large capacity fixed condensers it is often convenient to use "paper condensers," that is, condensers made up with sheets of tinfoil and insulating sheets of paper. The best type of large-capacity fixed condenser are the Mansbridge condensers: Mansbridge condensers are made by the T.C.C. amongst others, and are comparatively cheap. In this connection it may be well to mention that many amateurs get the impression that any old condenser will do for a blocking condenser, particularly across the H.T. battery. It is, however, just as important to have a condenser which is perfect in insulation here as a condenser.

Finally we come to the condenser shunted across the 'phones or loudspeaker. At first sight a telephone condenser might seem to have a by-pass action, and to be therefore undesirable. But as a matter of fact, it acts as a storage condenser, and in this way materially improves the reception. Signals can, of course, be heard without a telephone condenser, but it should be remembered that there is always a certain amount of capacity in that part of the circuit even in the absence of an actual condenser.

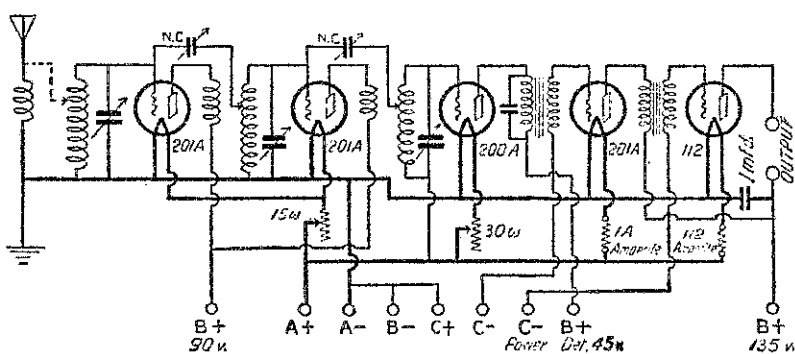
Owing to the fact that the 'phones and the H.T. battery often occur in proximity in the circuit, some amateurs place a single large capacity condenser right across the two, but this is not the best practice. It is better, as already indicated, to place a large condenser across the battery, and a smaller one across the 'phones.

The small B batteries do not have great enough ampere-hour capacity to be suitable for use with multitube sets. You will get much better results if you use the larger type. Besides, you will find them more economical in the long run.

SELECTIVITY AND HOW TO OBTAIN IT

ADDRESS BY MR. PRESTON BILLING

Now that we have a high powered broadcast station in our midst, the remarks which are to follow will be found of assistance generally to listeners. Commencing with the aerial itself, it is impossible for any receiver to be selective when it is connected to a long aerial. Aerials of this type, especially now the stations to which we listen are so powerful, are to be avoided. I would personally recommend those experiencing trouble in this direction to limit the aerial length, inclusive of earth wire and lead in wire, to 80 feet in all. The choice of this length will, of course, result in a shorter distance between the poles, allowing for, say, 30ft. masts, the length of wire between them would be, say, up to 50 feet. The aerial should make entrance to the house through a porcelain tube, and once inside the house, it should be kept as short as possible. If the set can be placed near the point of entry of the aerial, so much the better.



Layout of a five-valve Neutrodyne set, as recommended by Mr. Preston Billing in a talk to listeners from 2YA.

The regulations require that a lightning arrester be installed. These may be fitted outdoors or indoors as preferred—personally, I prefer the latter type.

The Earth Lead.

This is a point which is often neglected. Use an insulated wire of reasonably heavy gauge, bearing in mind also that this lead must be kept as short as possible. Run one end of this wire to the nearest cold water pipe and clean the pipe with a piece of carborundum cloth or a file. Next place the clamp in position and screw up tight after attaching the earth wire. Just make sure you really have a good earth connection for, although you may have attached the wire to the water pipe, have a look and make certain that the pipe does not completely encircle the house services ere returning to earth.

The Receiver.

The receiver is by far the most important item of the whole installation. There are many makes of excellent receivers on the market, but here again both the selectiveness and the power of them are dependent on the number of valves used and the type of circuit in use. I am not going to enter into the respective merits and demerits of the various types of receivers, for if one has already purchased a ready-made receiver there will be little or no chance of putting any alterations into it to make it more selective, and resort will have to be made to one or more forms of what are known commercially as wave traps. If the receiver is to be in use close to a broadcast station then it would be advisable to see that it is one of the shielded variety. This procedure will be found advisable, as there is the risk that the tuning inductances themselves may act as miniature antennas, in any case shielding will have the effect of cutting down interference from domestic electrical devices.

The design of the radio-frequency transformers and the material upon which the turns are wound have a good deal to do with the selectiveness and

the strength of the reception. If your receiver is a factory-built one by a reputable manufacturer, you may rest assured the coils therein are of satisfactory design, in fact, many of the modern coils are as selective as they can be made without destroying their tonal properties. If you wish to construct a set of these coils for use in a neutrodyne circuit the following particulars are given. If these instructions are carried out a very fine receiver should result—see circuit diagram for wiring.

How to Make the Coils.

Procure some sheet celluloid about 1-32nd of an inch thick, cut a strip off the sheet equal to 2 1/2 in. wide, procure a wooden former such as that when one thickness of the celluloid is wound around it the overall diameter will be three inches, allow a lap over of about half an inch—making the ends fast by painting the joint with a mixture of celluloid and Amyl-Acetate mixed. Next proceed with the winding, which should be done with 21 gauge double silk covered wire. Commencing from one end about half

an inch from the edge wind, in place fifteen turns and bring out a tap. Proceed with the winding until there are wound on a total of sixty-four turns, inclusive of the 15 turns previously wound. The two ends can be secured in place by drilling two small holes and passing the wire ends through each at their respective ends. Prior to removing the coil from the former, coat sparingly with the mixture mentioned; allow to stand a while before removing from the former, when the coil will be found to come away readily and keep its shape on removal. This completes the secondary coil.

The primary coil is made in a similar manner, except that the overall diameter will be 2 1/2 in. and the width of the strip will be 1 1/2 in. It is secured in the same manner, and the winding is commenced at a similar distance from one edge and wound in the same direction. Five turns only are wound in place, and these are spaced equally so that the five turns occupy the space required by the 15 turns of the secondary winding. Eventually the primary coil is placed directly beneath these 15 turns.

Generally speaking, the beginner is advised to buy reputable coils.

The method of mounting these coils will be left to the ingenuity of the constructor. They are usually fastened to the variable condensers and set at an angle of slightly under 55 degrees. This angle must be set accurately, if the receiver is to be neutralised without difficulty, as if one coil is of a lesser diameter than the other it will be necessary to space the primary with thin strips of sheet celluloid of 1-8 of an inch thickness. These are secured in place with the amyl-acetate solution. Three coils are wound in this manner to complete the set. These coils when built into the circuit given with this article will be found very selective and very powerful.

Increasing Selectivity by Means of Wave Traps.

Much has been written with regard to this subject, and many of the so-called wave traps have been tried mostly with disappointing results, for, whilst they partially eliminate the unwanted signal, they considerably diminish the volume of the station it is required to listen to. There have been only one or two devices which have come under my notice which will really increase the selectiveness of any set, and, at the same time, actually increase the signal strength from the station you desire to listen to.

Radiating Receivers.

This form of nuisance seems to be on the increase, and I would like to give a little advice to those who may be in doubt as to when their set is reradiating. The three-coil Armstrong receiver, whether of the two-circuit or single circuit variety, is a positive offender, and a good deal of trouble comes from amateur sets constructed on this principle, and operated by own-

ers who know nothing about them. In addition to the above mentioned set there are various forms of Neutrodyne and Browning-Drake receivers which are just as likely to cause annoyance to your neighbours if they are not correctly neutralised. If users of these home-made sets would make certain of their neutralising adjustments there would be fewer squealings on the air. Any receiver which is believed to be radiating can be cured by adding one stage of neutralised high-frequency amplification ahead of the existing set. If one must go on using the type of circuit first mentioned, then bear in mind the following hints: (1) Do not use too high a B battery pressure. (2) Keep the det B positive voltage as low as is consistent with good results. (3) Use a small size tickler coil, and keep it as far as possible from the secondary coil. Violation of these instructions simply bring in distorted signals, which are mushy and useless to the listener, and, in addition, the owner of a good receiver is debarrated from having a good evening's entertainment. Owners of small valve sets are frequent offenders through straining their receivers to work loudspeakers with two and three valves.

In conclusion, Mr. Billing stated that he would be pleased to answer any inquiries which may be addressed to me, care of this station. Queries to be brief and to the point, written in ink, on one side of paper only, and clearly endorsed with the name and address of the inquirer.

NOTES

Constructors who are about to make a low-loss coil for a crystal set should read the instructions for making such appearing under the Browning-Drake heading in this page.

"Megohm" thanks those readers who have sent in suggestions for subjects to be dealt with in this column. These suggestions give a good indication of the items most required, and of course, the same requirements have been mentioned by several, but those who have written are assured that practically everything asked for is noted for treatment in due course. Several useful ideas are now under experiment for description as soon as completed.

A number of inquiries regarding details in the construction of the 112-volt B accumulator have been answered by post. After the first few charges the current may be strengthened considerably without doing any harm. Recent experiment shows that it takes about three weeks' daily charging before the lead plates begin to hold their charge for twenty-four hours. During the first week no useful work must be expected, and during the second and third weeks a charge must be given immediately before use, but may only last two or three hours. After three weeks the improvement is rapid, especially with frequent and regular use. This forming is a little tedious, but well repaid in the end, as the battery will stand "sporting" without harm, and will give long service without even renewal of the acid.

A number of correspondents have written asking where they can procure smudgy supplies. A much-needed article for constructors is an eighth-inch threaded brass bolt half-inch long, with countersunk head and hexagonal nuts to fit. These can be purchased from Messrs. E. W. Mills and Co., Ltd., Jervois Quay, Wellington. The bolts are 3s. and the nuts 1s. 9d. per gross. Brass washers, the smallest with 3-16th inch hole are supplied by the same firm.

at 2s. 3d. a gross. Messrs. Geo. W. Wilton and Co., of Upper Willis Street, Wellington, supply test tubes, chemicals, and pure aluminum sheet. This information is for the benefit of country readers who are sometimes in a difficulty to know where to procure supplies.

By courtesy of Messrs. John Chambers and Son, Ltd., of Cable Street, Wellington, "Megohm" has tested one of the Carborundum Company's carborundum crystal units with battery and potentiometer. In operation there is a fairly critical position of the potentiometer at which greater clarity and an increase in volume are noticed. This fact makes the unit very suitable for amplification in any way, either as detector in a multi-valve set, or as the crystal in a reflex set, where the finding of a suitable crystal sometimes constitutes the most difficult part of the work. Used without the stabilising unit, the crystal alone is excellent, giving smooth tone and good volume with continuous reliability, as it requires no setting and there is no adjustment to fiddle with. The price of the crystal alone is 7s. 6d. and the complete stabilising unit 17s. 6d. This firm also stocks a carborundum resistor (2s. each) in 50,000 and 10,000 ohms, with noiseless action, which proved very suitable when used in the detector circuit of a B eliminator.

CHOOSING A LOUD-SPEAKER

It is an unfortunate fact that many amateur constructors, after having made quite a good job of a set, will go and spoil the whole thing by using an unsuitable loudspeaker. If there is bad distortion, it is a common occurrence to find that the whole trouble is due to the loudspeaker. This state of things is found, whether the set be home-made or from a well-known manufacturer's store. The main trouble is usually due to the fact that the set, quite good if properly treated, is installed in a corner "out of the way, and is fitted with a small loudspeaker—mainly so as not to attract attention, or to give a small volume.

Overloading Troubles.

This is all right as long as a small output from the set is all that the loudspeaker is required to carry, but if the set is capable of giving a large output, and the loudspeaker is being "pushed," distortion is bound to follow. The same occurs if a small loudspeaker is expected to fill a large room or to provide sufficient volume for occasional dancing.

The safest way to ensure satisfaction, unless small volume and a small room are to be coupled together, is to use a medium-sized loudspeaker, whether loud or small volume is required. A medium loudspeaker will give good round tone on both loud and weak speech and music, and if less volume is required the set can be detuned or a valve cut out.

There are, of course, many types of loudspeaker, and it is best for the listener buying one for the first time to have a demonstration—a comparative demonstration—before he completes the purchase. He should hear various types and makes of loudspeakers under the same conditions—if at all possible, on his own set—before he finally makes his choice. He will probably be surprised at the difference between the various tones that the different loudspeakers produce.

Whatever he does he should not buy his loudspeaker upon recommendation.

(Continued on page 15).

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AND STABILISING UNIT

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Increased Selectivity
Greater Distance
More Volume
Better Tonal Quality

The Carborundum Detector is permanently fixed. No fiddling with a cat's whisker. The Carborundum Detector will increase the efficiency of YOUR Set. You will be surprised at the new-found power. Some Crystal Sets with Carborundum Detectors have heard stations 1100 miles away. Can yours do that?

Read the criticism of "Megohm" in the "Notes" on page 14.

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The Children's Corner

By "ARIEL"

DEAR RADIO CHILDREN,—

What a difficult task you set me this week to select a prize-winning picture from several hundred paintings. Such a lot of them were beautifully done, too. Mervyn Jillings, Hastings, heads the list for all-round merit. He is only eight years old, and I am very proud of his success among so many older competitors. The prize for the writing competition goes to C. C. Meikle, Nelson. Nearly all the letter-writers were boys. What happened to my Radio-girls? Surely they are not going to let the boys have things all their own way, are they?

I am glad you all take such a keen interest in broadcasting and appreciate the fact that you live in a very wonderful age. Those of you who make your own sets will perhaps be interested to know that in the Science Museum at South Kensington, London, is a funny-looking collection of coils of wire and scraps of metal, and other apparatus, stuck together with sealing-wax, which looks as if it would be dear at five shillings! This is the very first wireless set ever made, and I'm sure you would all love to have a look at it. It was put together before any of the bits could be bought at a shop, and a good deal of it is hand made. The man who made it was a humble electrician from Wales, named David Hughes, and he also made the very first microphone.

And to think that it was twenty long years before anyone else in the whole world believed in wireless! All this happened about fifty years ago, and the story of how David Hughes tried to convince the great scientists of the day, in vain, is too long to tell you now. You see, ideas sometimes float around in the world of thought till they find an entrance into the right man's mind; and often when they have found a home, that particular man has not the power to convince other great minds of the wonderful discovery he has made. So with David Hughes—he had not the power of expression, and often called things by their wrong names; so, of course, found it impossible to make other people understand him.

Anyway, he lived to see wireless waves growing to recognition and usefulness under Marconi, and I expect that made up to him for his earlier disappointment. Quite a lot of notable work has been done by experimenters who make their own tools and instruments as they go along, so who knows what new discoveries any one of you may make when tinkering with your radio sets!

Next week will see our third Zoo animal, the "Krytik." Some children tell me they don't know what he is, so I'll tell you again. A critic criticises, doesn't he? He is a fault-finding, poke-a-hole-in-everything-kind-of-person beast. Now, do you know how he looks? A "Paydout" is a pale, feeble, ghost-like creature. You must all know what he is like, because he so often puts in an appearance when we are listening-in to our favourite music—it just fades out! In case any of you are going to find these a bit difficult to draw, we will have some really easy ones to follow.

All Wellington radio children will be delighted to hear Uncle Ernest once more at bed-time story hour. I think he will be a new Uncle for the much wider circle made possible by 2YA's high power. Love—ARIEL.

COMPETITION RESULTS

Our competitions are becoming very, very popular—competitors are full of enthusiasm. Here are the results of the two closing on August 24—Ariel.

PAINTING COMPETITION.

POKKIT AND PYKK.
Prize Winner—Mervyn Jillings, 8 years, 416 Brunswick St., Hastings, H.B.

VERY HIGHLY COMMENDED.
Daisy Gallacher, Linwood, Christchurch.

N. Yelland, Birkenhead, Auckland.
Phyllis Ball, Epsom, Auckland.
Peggy Wheatley, Westport.
Irene Flemming, Hāitai, Wellington.

Roxie Abbe, Aramoho.
Florence Olifent, Kelburn.
May Spicer, Carterton.
Zelda Clayton, Gisborne.

Peggy MacKenzie, Queenstown.
Dorothy Tovey, Howick, Auckland.
Rav Andersen, Collingwood, Nelson.
S. L. Holmes, Pendahton, Christchurch.

K. Minsen, Opawa, Christchurch.
Kathleen Nicholson, Remuera, Auckland.
Sidney Hough, Linwood, Christchurch.

HIGHLY COMMENDED.

Allan McNab, Mt. Albert, Auckland;
Norma Strange, Grey Lynn, Auckland;
Nora Fulton, Frankton; Joyce Holland Napier; Jean James, Papakura; Hugh Taylor Opawa, Christchurch; Torry Lamb, Timaru; W. Jameson, Pendahton, Christchurch; Marion Every, Carterton; Edna Pill, Khandallah; Irene Shaw, Remuera, Auckland; Dorothy Walker, Herne Bay, Auckland; Betty Baker, Karori, Wellington; Mary van Asch, Havelock North; Richard Oden, Te Puke, Bay of Plenty; Nola Jordan, Palmerston North; Peggy Bull, Opawa, Christchurch; Jean Collins, Taneatua, Bay of Plenty; Elizabeth Marshall, Takapuna, Auckland; Truda Bayliss, Gisborne; Kathleen Evans, Reefton; Alma Evans, Manukau Harbour; John Jerratt, Epsom, Auckland; Betty Blow, Rongotai; Ronald Caughy, Epsom, Auckland; Newton Cramer, Onehunga; Ngaire Moss, St. Albans, Christchurch; Hilda Purdie, Parnell, Auckland; Marion Marks, St. Clair, Dunedin; Suzanne Riddiford, Havelock North; Doris Golding, Wadestown Road, Wellington; George Schnell, Eketahuna; Mary McLeod, Mt. Eden, Auckland; Douglas E. McEwan, Edeandale South; B. Westall, Lyttelton; Reginald Hancock, Clevedon; Dulcie McIlhin, Takapuna; Cicely Clifton-Mogg, Christchurch.

LETTER COMPETITION

"WHAT I LIKE BEST ABOUT BROADCASTING."

Prize Winner.

C. C. Meikle (12 years), 113 Collingwood Street, Nelson.

What I like best about broadcasting is the making of one's own apparatus, and the honest pride of "getting in" a distant station. This I can do by studiously reading notes by "Megohm" on the construction of wireless parts, and to him I can always refer for information on any detail. His articles on the construction of different kinds of sets are very interesting and instructive for enthusiastic beginners in their new hobby.

I am very interested in the mystery of wireless. To think that the waves from the Sydney town clock have been rippling at our own doors for years unknown and undetected by us, and what other messages may be floating in the boundless ether only waiting for us to detect them.

As the various types of sets are improved, more and more wonders will be opened up before us, for wireless is still in its infancy. By making my own sets I shall, no doubt, learn the principles of wireless and render



MASTER RAY ARNOLD.

Ray Arnold is only twelve years old, but is a very clever little violinist, and gives promise of becoming a great player. He has, on two occasions, taken part in Aunt Diana's concerts at 4YA, and is going to play very soon at an evening concert with grown-up artists. All radio children will be on the look-out for his name in the programmes.

good service in finding and fixing defects in my own and other people's sets.

As the years go past, fading, valves, batteries and all antennae systems will gradually disappear, only to be remembered by the grey-beards of the last generation.

C. C. MEIKLE, Nelson.

Other Views.

These are taken from other competitors' letters. I thought you might be interested to know what other girls and boys like best.

I like your page very much, especially the competitions. The winning drawing of the "Howler" was very good.

At night after tea we go into our sittingroom, where our wireless set is, and tune in the New Zealand stations, and sometimes the Australian ones. The best part of the programme is always the children's session, especially when it's Uncle Jack's turn at 3YA.

After the children's session I like a band or orchestra to play. When there are ukuleles and guitars in the orchestra the music is very nice.

Next to these I like to listen to an account of the market reports, even though I don't understand much of the things said.

Then, unless the programme is to be very good, I go to bed.—Bruce Brock, Hanterville.

Likes the Music.

I am just writing to tell you the thing I like best about the broadcasting; it is the violin and string instruments. The fun I get out of it is to see our dog sit down and toss his head to one side, and it does not matter what you say to him, he will not shift. Another reason why I like the violin is because I think the music is so sweet. My father has also promised to give me a violin if I get my proficiency certificate at the end of the year, and so you may be sure I am working very hard at school. I often wonder when there will be a children's hour from 2YA, because I like the stories, especially the ones from Christchurch.—Frank Willis, Vogeltown.

Can Answer Back Safely.

My father has a five-valve set, and he gets the "Radio Record" every week. I look forward for it now, as I read the Children's Corner. The part I like best is the Children's Session, as I don't sit up late. I have written to all the Aunts and Uncles in New Zealand. Dad and I have great fun listening to the children's stories, as we can answer them back without them hearing us. I think it is good fun trying to get new stations. I am glad that 2YA is getting a Children's Session. Best wishes.—Bruce Jones, Dunedin.

Wonders of Wireless.

For my part, I think, perhaps, of all the wonderful inventions we have in this beautiful old world of ours, wireless comes first on the list. What I like best of all about broadcasting is, firstly, the unselfish nature of the announcer, in giving such enjoyable programmes over the air, and, secondly, the immense comfort one obtains on such boisterous nights as we are at present having. Wireless appeals to me as the most wonderful invention. In this small township of Aratapu, finding no other amusements but pictures, of which one soon tires, I find wireless the most pleasing entertainer I have ever experienced. I have had the pleasure of hearing Dame Nellie Melba sing from Melbourne. I may not have had the advantage of ever hearing this wonderful singer if not for the wireless. I do not think broadcasting is nearly so beneficial to town people as to the weary farmers after a hard day's toiling, because in town one has so very many amusements from which to choose. We owe a great deal to Marconi, the inventor of this great entertainer. Indeed, many homes, hospitals, and out-of-the-way towns would seem lost without this great boon. Our grandmothers and grandfathers, too, who are too feeble to go out, appreciate this power of broadcasting greatly. I cannot help but think of the time and trouble to which the announcers put themselves

for the benefit of others, and hope that we listeners remember that it is very hard to please everybody, and so take and make the best of what others so generously give.—Freda Hempself, Aratapu, North Wairoa.

ANSWERS TO HIDDEN TOWNS

1. OXFORD.
2. READING (red in g).
3. CANTERBURY.
4. SEVENOAKS.
5. SWANSEA.
6. NEWPORT.
7. FOLEYSTONE.
8. RUGBY.
9. DARLINGTON.
10. BLACKBURN.

STRANGE CONTRADICTIONS

I'm strange contradictions; I'm new and I'm old,
I'm often in tatters, and oft decked with gold.
I'm always in black, and I'm always in white,
I'm grave and I'm gay, I am heavy and light,
In form too I differ—I'm thick and I'm thin;
I've no flesh and no bone, yet I'm covered in skin;
Often die soon, though I sometimes live ages,
And no monarch alive has so many pages.
What am I? Answer next week.

MORE JUMBLED NAMES

These are names of well known poets. See if you can straighten them out.

1. NRYNOSTN.
2. LEWLNOCOF.
3. GRINWORN.
4. SIDODAN.
5. BTASK.
6. DFFLRGOC.
7. LOTN.
8. YHIESLL.

Answers next week.

A NEW COMPETITION

Can any one write parodies? Here is one on contrary Marv—not very good one, certainly!

Mary, Mary, quite contrary,
How is your radio set?
Frisco and Sydney, and Paris, we hear—
Have you got London yet?

I think you could turn out something better than that if you tried. Send them in by September 7. If we get some very good ones we might get one of the uncles to recite them over the air—would that be nice?

THINGS THAT CANNOT BE DONE

You can't weigh grams with a grammar,
And you can't cure hams with a hammer,
Do suns with a summer,
Stew plums with a plumber,
Or shear an old ram with a rammer.

A PAINFUL ENDING.

You never hear the bee complain,
Or hear it weep or wail;
But if it likes it can unfold
A very painful tail.

(CONTINUED FROM PAGE 14.)

alone. If he is advised to get a "so-and-so," he should insist on hearing it before he places his order—and after hearing it, it would not be a bad plan to hear some others before finally choosing. Many and varied are the tastes of listeners as regards the tonal quality of broadcast music. Some prefer the higher frequencies to be predominant, others don't mind what they have, so long as they get volume, while still more are dissatisfied if the low notes of the bassoon and organ are in any way cut off, and do not mind losing a few of the higher harmonics. A very few really study the problem, and demand real tonal purity, and these have to get it themselves, as a rule, by suiting the set to the loudspeaker, and vice-versa.

Another point that may escape the listener is that concerning the impedance or resistance of the loudspeaker. This may seem a small matter, but if tonal purity is to be obtained it is really essential that the resistance of the loudspeaker be suited to the impedance of the output from the set, which latter depends upon several factors, such as the anode impedance of the valve used, and so on. Roughly speaking, if the resistance of the loudspeaker is about a quarter of that of the impedance of the output, the set should be capable of giving reasonably pure results. The resistance of a loudspeaker is usually somewhere about a quarter of its impedance, so that a "2000 ohm" loudspeaker has an impedance of about 6000 or 8000 ohms. This is a very rough calculation, and is only very approximately correct, but for the average power valve having about 6000 ohms impedance, the 2000 ohm loudspeaker should be most suitable.

The Hornless Type.

Loud-speakers having only 120 ohms resistance will necessitate the use of a telephone transformer, that is, a transformer with a ratio of 10:1, or thereabouts, will have to be inserted between the output to the set and the input of the loudspeaker in such a

way that a step down in voltage (and corresponding step up in current) is obtained. This is often useful where the loudspeaker is to be used on extension leads, though it is not necessary, as the well-known choke system of feeding the loudspeaker, and thereby isolating it for all except the required L.P. impulses, is quite efficient, and enables long leads to be employed without danger of H.T. leakage or howling, due to capacity leaks between the plate circuit of the last valve and earth.

Finally, the intending purchaser should remember that the hornless loudspeaker, as a rule, appears to give less volume than its earlier brother with the sound conduit, and this is often due, not to insensitivity, but to the fact that the sound is dispensed in all directions, and not led out in one definite direction. The golden rule for success in choosing a loudspeaker is to insist on a demonstration, and not to choose before hearing, not only of the one you fancy, but also several others.

More care should be exercised in the choice of a hornless loudspeaker, especially if it is of the cone type, because blemishes in the way of high or low note suppression due to the set itself may be seriously pronounced when the loudspeaker is coupled to the set.

Extreme care should therefore be taken by the purchaser, whatever loudspeaker he "has his eye on," and it cannot be too much emphasised that he should insist on a demonstration under conditions as nearly like his own as possible, and not choose a loudspeaker solely for its beauty of line, or because the firm that advertises it is "sure to turn out a good one."

If there are children around it is advisable to use a single throw switch connected in series with one of the A battery leads to the set. It should be located high enough on the wall, or in some concealed spot, to prevent the oldest child from reaching it easily. When not using the set throw the switch off.

WHY DO CRYSTALS RECTIFY?

A FEW THEORIES.

Crystals have now been used for the rectification of wireless signals for about twenty years, but it is curious to note that, long before being put to this use, the crystal had been carefully investigated by scientists as a one-way conductor of electrical impulses of high frequency. Despite these facts, the present-day crystal investigator is almost as much in the dark as to how rectification takes place as was his predecessor of pre-wireless days.

Since the introduction of the crystal as a radio rectifier, it has been found to possess other remarkable characteristics which are in every sense quite as mysterious in their nature as its rectifying properties. Besides being able to rectify H.F. currents, there are a number of crystals which are now known to be able to generate oscillations when they are connected in suitable circuits, and, in addition, several varieties of crystalline minerals have recently been shown to possess the extraordinary property of converting light rays into electrical impulses. Other strange and unusual characteristics which are possessed by some varieties of crystals show themselves in the effects of "pyro" and "piezo" electricity. That is to say, crystals possessing these properties are able to generate electrical currents in their interiors when they are either heated or subjected to varying amounts of pressure. Yet here, again, practically nothing is known about the causes of these effects. One can only surmise certain probable actions which might account for the effects.

Theories which have been advanced in connection with crystal rectification may be divided into four distinct classes, as follows:—

1. Theories assigning the cause of crystal rectification to abnormalities

in the electrical conductivities of the materials

2. Electro-chemical theories.
3. Thermal theories.
4. Molecular theories.

Probably the most popular and well-known theories at the present time are those which can be included in the first division. In 1907 Professor Pierce found that a carborundum crystal rectifier appeared to disobey Ohm's law entirely. For instance, with a local potential of two volts applied to it, the crystal passed approximately 35-40 times as much current in the one direction as it did in the other; and, furthermore, it was subsequently discovered that, as the locally-applied potential was increased, the one-way conductivity of the crystal also increased quite out of all proportion. Thus, with a local potential of 30 volts, the carborundum crystal passed 3000 times as much current in the one direction as it did in the other. At the same period other scientists were making discoveries of other crystals with rectifying properties when used in contact with a suitable metal.

One electro-chemical theory assumes that there is present in the surface films at the point of crystal contact a quantity of absorbed air or gas, and it is owing to the peculiarities in the conductivity of this surface layer that the rectifying effect of the crystal is set up.

The best known thermal theory has it that when the oscillatory current passes across the crystal contact a certain amount of heat is produced, giving rise to further minute currents of a unidirectional nature, and it is these currents that flow from the crystal into the headphones of the set.

None of these theories makes the slightest attempt to explain the practically very important fact that many crystals decrease in sensitivity after continued use. Nor do the theories offer any explanation as to why one crystal may be entirely satisfactory in sensitive properties, whilst another crystal of an identical composition and form may be utterly useless for

use in a broadcast crystal receiver.

By floating fine crystal dust on the surface of mercury, and applying a fine cat's-whisker to a particle of the dust, good rectification has been obtained, proving that conditions necessary for rectification must be present in the surface layers of the crystal, and not within its mass.

It appears likely that the true explanation of crystal rectification will be based upon the surface molecular theory, although it has not yet explained how the rectification is produced. Nevertheless, the holders of the theory appear to be making praiseworthy attempts to account for well-known properties of the crystal, which the exponents of the older conception of crystal action almost entirely ignored.

DOUBLE GRID VALVES

Hugo Gernsback, editor of the New York "Radio News," comments:—"While Europe has been generally conceded to be behind American radio progress, it is, nevertheless, a rather singular fact that one vast improvement in radio, the double grid valve, is not only not produced in this country, but is hardly known here. There is no denying the fact that the double grid valve is a great improvement over the American single grid valve. This valve is in great demand, and is very popular in Europe, yet in America the only few samples that are in existence are all imported. Why there should be such a situation has always been a cause of wonderment, and we hope it will be rectified speedily."

Just ruins good radio, when it collects on the sockets and other apparatus in a receiver. Sets that originally worked well, but which gradually lose volume and distance range, oftentimes are caused by a gradual collection of dust which affords a good leakage path from one terminal to another on a socket, coil or condenser. Keep your set in a cabinet and even then frequently dust off the interior. It pays.

An Improved Browning-Drake---Increasing Selectivity

Programme Features

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Improved Browning-Drake Receiver.

A Popular Circuit For Home Construction.

"By Megohm."

The four-valve Browning-Drake circuit at present enjoys a very widespread popularity, chiefly on account of its high efficiency, low up-keep cost and ease of handling. Another point much in its favour is the fact that the radio-frequency valve is neutralised in order to prevent interference radiating from the aerial to the detriment of reception on nearby sets.

The Browning-Drake is a good distance-getter on account of the employment of reaction, rendering it specially suitable for searching out distant stations, an operation which can be more easily carried out than upon a neutrodyne and some types of super-het. This four-valve circuit is often mentioned as being equal to many circuits employing five valves; this contention is certainly true and may easily be proved by demonstration.

The carefully constructed set will bring in New Zealand and Australian stations at good loud-speaker volume, and subject to the caprices of the ether and atmospheric conditions, may bring in stations at 'phone strength up to seven or eight thousand miles, extreme range being regulated to some extent by the operator's patience, skill and vigilance.

For the convenience of those who may wish to commence with a two-valve set, the radio and detector portion of the circuit is shown in the diagram in such a way that it may easily be separated from the amplifier portion. The two-valve portion will give good 'phone strength of New Zealand and Australian stations.

The theoretical circuit is given this week, together with the construction of the aerial coil. Low-loss methods are used for the inductances, as careful tests have shown that by their use there is a gain in both volume and selectivity. Some constructors may choose to wind the coils without spacing the wires, but it must be clearly understood that this method will introduce a certain amount of loss, especially if cotton-covered wire is used, as it is less efficient than enamelled. If the instructions are followed, the low-loss plan will present no difficulty in construction. As an instance of the selectivity of this set it may be stated that without any wavetrap or shielding, at a distance of two miles from 2YA, that station can be cut out and 3YA tuned in, only a faint trace of direct pick-up of 2YA being heard at the intervals. With 1YA there is slightly more background, but of course with a suitable wave-trap 2YA is easily cut out, and such trap will be described at a later date.

Altogether, the circuit is an ideal one for New Zealand conditions, and lends itself easily to home construction, and quite as important is the fact that it complies in every respect with the Government regulations.

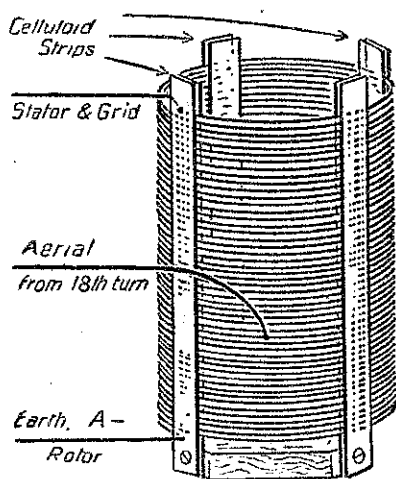
The Aerial Coil.

An illustration of the aerial coil is given, and upon reference to this it will be seen that it is a low-loss coil of thoroughly skeleton form. The 20's enamelled wire used is held together by eight strips of motor-hood celluloid about 1/2-inch wide, there being a strip inside and one outside at each quarter of the circle. The minimum spacing for low-loss coils is half the diameter of the wire, and in any case the spacing should not be over done, in order to keep the dimensions of the coil within reasonable limits. The spacing used for the coil in question is best obtained by winding a 24's enamelled wire alongside the 20's, afterwards unwinding the thinner wire. This is a much more reliable plan than relying upon twine for the spacing, and the 65 turns required will occupy just about four inches, which is short enough for any cabinet. There will be 16 turns to the inch. The

extra turns above those usually specified are to compensate for increasing the gauge of the wire, and to enable 72L to be tuned in, as this station transmits on 535 metres, which is an unusually high wave-length for ordinary broadcasts in this part of the world. These particulars are correct for an aerial and lead-in totalling 90 feet, and allow considerable latitude for longer or shorter aerials.

A former of three inches outside diameter is required upon which to construct the coil, and as this same former will be used in the construction of the radio-frequency transformer, the length should be not less than 8.5 inches, but seven would make handling easier. The former may be purchased ready-made, or constructed upon discs of cardboard as already shown in this column, but if this latter method is adopted the core upon which the former is made must be kept inside during the winding and cement required. A shilling's worth or case be a continuous strip 20 inches long and six inches wide, rolled round twice and glued down. Whichever kind of former is used, it must now be covered all round with a sheet of good paper to keep the wires from sticking

of the 20's. Now with the coil standing on the table, turn it with the left hand, grinding the wires on with the right, pulling tightly all the time. When the 65 turns have been wound,



ist's will be more than is required. The cement may be used quite thick, but it too stiff, add acetone and stir. With a small stick of wood, work the cement between the wires and upon each strip of celluloid on which they rest. A little lumpiness will not matter, as the extra strips of celluloid are now pressed down on the soft cement, one strip on each, and after adjusting the spacing of one or two wires at the ends of the coil, the whole is now left for a few hours to set. In order to save any possibility of distorting the coil by attempting to slide it off the former, it is a much safer plan to clear the centre of former, then with pencil and ruler, draw a line inside the former corresponding to the centre of one of the strips of celluloid. Now with a sharp knife, working half from each end, cut through the former along this line, when one side of the former can be raised and the whole will lift out, and then the sheet of paper is carefully removed, leaving the skeleton coil securely held by the celluloid strips alone. The strips should now be clipped off to leave about half an inch outside the end turn of wire. Any method of fast-

but if the reduction is too great reaction may become somewhat unstable. The only method is to experiment and so find the correct value, giving ample volume and suitable selectivity. In order to save providing a number of fixed condensers for experiment, it is therefore a cheaper and easier plan to put in a midget variable condenser and once this is set it need not be altered.

The Aerial Tuning Condenser.

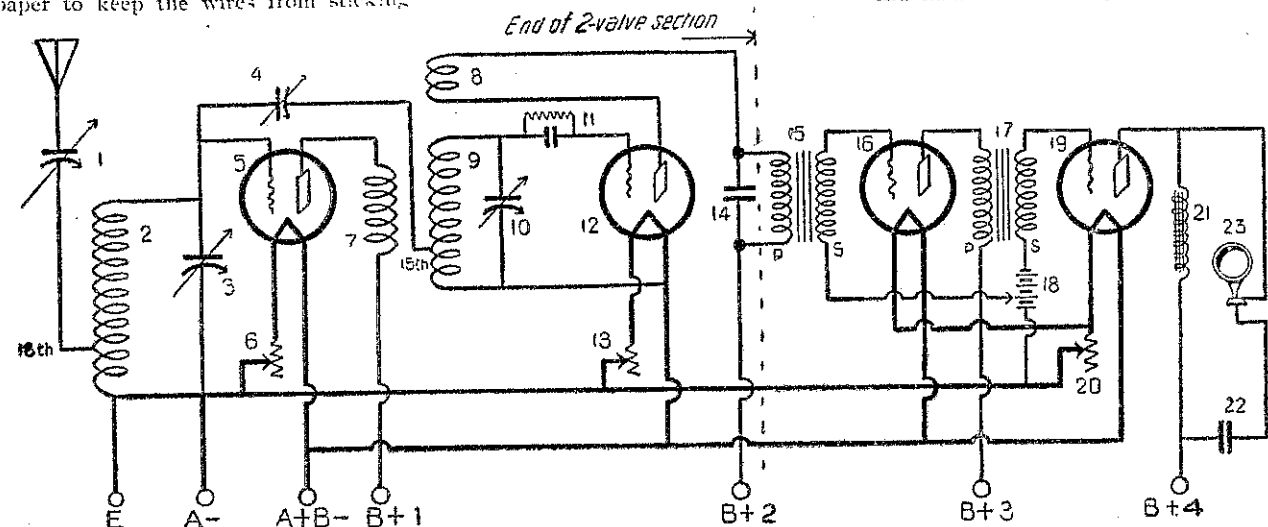
The maximum capacity of this condenser is .0005 mfd. In connecting up both this and the reaction condenser the moving plates, or rotor, should be connected to earth, as by that arrangement hand capacity which can be so troublesome is practically eliminated. This should be a low-loss straight-line frequency or the new central-line style, and a good friction drive vernier dial is recommended, about ten-to-one ratio. There is no backlash in a well constructed friction-drive, but some of the geared verniers are not blameless in the matter of backlash and uncertainty of movement. Brass is now replacing various kinds of white metal, hitherto used for the vanes. The centre-line method of modified straight line frequency spreads the stations more evenly over the dials and so makes for easier and yet sharper tuning.

R.F. and Detector Valves.

Mullard 4-volt valves are in use in the set being described, and certain details that are to be given are suited to these valves, but constructors must suit their own fancy in the matter of voltage to be used and the particular make of makes of valve to be adopted. Those whose situation makes the use of dry cells imperative will choose one of the 2-volt dull-emitters that may be obtained. If the constructor already possesses a 6-volt accumulator, and wishes to use 4-volt valves in order to increase the interval between charges, a 30-ohm filament resistance must be used. If 4-volt valves are to be run off a 4-volt accumulator, a 10-ohm rheostat must be included in the circuit. For the detector the bradleystat in place of a wire-wound rheostat makes a smooth control which may often be used to advantage in DX work. The next installment of this article will include a baseboard and panel wiring diagram showing positions of the valves, and other components. The type of R.F. valve used influences the number of turns required on the primary of the R.F. transformer. Mullard P.M. 8's have a suitable impedance of 16,000 ohms and an amplification factor of 13.5, the filament current 8.7 volts and 0.1 amp. The suitable H.T. voltage is about 80. The UX201A, a suitable valve for both positions, requires a filament current of 6 volts, 25 amperes, and a H.T. voltage about 90. The question of valve sockets must be decided as to whether the British or American type will be adopted. It should be noted that the Mullard valves may be obtained with either British or American base.

Referring to the diagram, if only a two-valve set is required, the 'phones will be connected to the two black spots above and below the 'phone condenser 14, and the connections to the primary of the L.F. transformer will be omitted.

(To Be Continued.)



1. Aerial series condenser, midget variable or fixed.
2. Aerial inductance, low loss winding, 20's enamel wire, wound 18 to inch, tapped at 18th turn from earth end as shown.
3. Aerial tuning condenser .0005 mfd.
4. Neutralising condenser of very small capacity.
5. Radio-frequency valve, medium impedance, about 16,000 ohms.
6. R. F. Rheostat.
7. Primary coil of radio-frequency transformer. 14 to 20 turns of 30's wire.
8. Tickler, rotatable, 10 or more turns 30's wire.
9. Secondary coil of R.F. transformer, 75 turns 22's wire, space wound, tapped 15th turn from primary end.
10. Reaction condenser, .00025 mfd.
11. Grid Leak and Condenser. 12. Detector valve, medium impedance, about 16,000 ohms. 13. Detector rheostat or bradleystat
14. Condenser over 'phones or primary of first audio transformer, .001 mfd. 15. First audio transformer, 5 to 1 ratio.
16. First amplifying power valve, low impedance, about 7000 ohms. 17. Second audio transformer, 5 to 1, or 3 to 1. 18. Grid bias or C battery, voltage to suit amplifiers. 19. Second amplifying power valve, very low impedance, about 3500 ohms. 20. Rheostat controlling both audio valves. 21. audio choke, about 20 henries. 22. Fixed condenser, 1 to 2 mfd.
23. Loud speaker. B1, 2, 3, 4, are connected to the various voltages of B battery as required by the respective valves.

to the former. The paper must only be stuck to itself and not to the former. Now take a piece of hood light celluloid and cut eight strips six inches long half-inch wide, by scratching lines on the celluloid, which can then be broken on the scratches. Four of these strips are now held along the former at equal distances and each end is tightly tied around with twine to hold them in place. Winding is the next operation. Fasten the 20's enamel and the spacing wire through a hole in one end of the former, allowing a surplus of six inches the end of the wire, leaving sufficient for connections, is now bound to the former by several turns of twine running right round and firmly tied. The spacing material is now wound off, leaving the wire neatly spaced. Celluloid cement, which must be pre-

pared overnight, is made by cutting celluloid into small chips and dissolving it in acetone in a small bottle, preferably with a wide mouth. A couple of thimblefuls is about the amount of cement required. A shillings worth or a fluid ounce of acetone from the chemist the lower end of the baseboard may be used, but a simple way is to take a square of thin wood 2 1/2 inches square, saw off the corners and secure a celluloid double strip to each corner, then by means of a central hole in the wood, secure the coil to the baseboard with a brass screw. It might here be mentioned that iron screws should never be used in a radio set, and in fact iron in any form should be avoided except where it has a legitimate purpose as in L.F. transformers. The celluloid strips should be left projecting a

quarter or half inch at the top of the coil, as they may be required at a later date to support a small wavetrap inductance. Now deciding which is to be the lower end of the coil, count 18 turns up, counting from where the end of the wire comes out, but not counting the end. To this turn a tap is to be soldered, either by flattening the end of the tap wire, curling it round and soldering, or by attaching a strip of copper-foil and soldering the tap wire to that. The enamel must be carefully scraped off both inside and outside the part of turn to be soldered. This tap connects to the small series aerial condenser.

The Aerial Series Condenser.

This small condenser is intended to increase selectivity. The smaller this condenser, the greater the selectivity,

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