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What is the Popular Opinion of Radio Items?

A £50 PRIZE—no entrance fee—a competition open to all—and absolute fairness in finding the winner—these will make a great popular appeal in connection with the big radio competition which is to be conducted by the four New Zealand stations next week.



CAN you place radio items in their right order of public popularity?

Listeners are invited to allot marks to the items on the programme in question and from these marks the average for New Zealand will be calculated. This will give a criterion of public opinion and the prize of a £50 Columbia gramophone will go to the listener whose opinion as to the order of popularity preference comes nearest to the calculated average.

The competition dates are:

- 1YA.....Wednesday, November 21
- 2YA.....Tuesday, November 20
- 3YA.....Thursday, November 22
- 4YA.....Wednesday, November 21

There is much frequently said about "What the people want" in the way of radio programmes, and the competition is based on an effort to satisfy that demand. The result of the voting in the competition will indicate what classes of concert items appeal most to listeners.

THE programme which is to be presented for analysis by listeners comprises a wide variety of items, but great care has been taken to ensure that each item will be performed in as perfect a manner as possible. In other words, the Columbia records which have been selected will give excellent renditions of the various types of items. This policy will ensure that listeners will award their votes not on the quality of the rendition but on the popularity of the type of item. The voting will, therefore, disclose the appeal which each class of item makes.

IT is not, of course, possible to include every type of song or instrumental item in the present competition. Seventeen items have been found to be the maximum. More would serve only to perplex listeners, whose task will be a difficult enough one as it is. With this consideration in view it was decided that to enable listeners to revise and readjust their marks the competition items should be repeated. The whole competition, therefore, will be given twice in the evening. This

will also ensure that all listeners shall have an opportunity of hearing all the items, if, for any reason, they miss some of them during the first or second transmission.

THERE is no doubt some little curiosity aroused as to why the maximum marks which can be awarded should be 99 instead of the usual 100. This has been done in order to facilitate the calculating of the general average marks for each item. This calculation will be done on a Burroughs adding machine in Christchurch and the use of only two figures in the number of marks to be handled will simplify the proposition considerably. The response to this competition is likely to be heavy and for a "human" calculator the task of handling the thousands of figures for 17 different items would be stupendous. With the adding machine, however, it is different, and the result will be absolutely accurate.

THERE is an important aspect in connection with the filling in of the coupon to which the attention of listeners is specially directed. On the right side of the coupon appears a column headed "Item number in order of popularity." This means that at the top of the column must appear the number of the item which is first in order of favouritism. Following underneath must appear the number of the second most popular item. Then the third, fourth, etc. It is very important that the numbers of the items should be properly arranged. Anyone who does not do this will be disqualified. Competitors are warned against filling in opposite each item its order of popularity. For instance item No. 1 "Poet and Peasant" may be awarded marks which will make it seventh in popularity. It will be quite wrong to put "7" in the column on the right hand side. This would imply that item No. 7 was the most popular, whereas item No. 7 might really be 17th in the order of popularity. Competitors must therefore place in the column on the right hand side the item numbers (not the names of the items) in order of popularity. The number of whichever item is most popular must head the column, the other numbers following.

(Coupon for competitors will be found on page 31.)

How Weather Forecasting is Carried Out

By B. V. Pemberton, Assistant-Meteorologist

ONE of the impressive features of the "Southern Cross" flight was the revelation afforded of the value of weather forecasts and the accuracy with which that forecasting of the course of events was carried out. The fact that on both journeys the aviators suspended the take-off till the "meteorological man" was able to indicate the probability of satisfactory conditions carried its own lesson of the high degree of accuracy now attainable in such forecasting. Fore-knowledge of weather conditions is of the utmost value to many sections of the community—notably farmers, fruitgrowers, seamen, and many branches of commerce. In the following "talk," given from 2YA, Mr. B. V. Pemberton, assistant meteorologist, outlines the procedure which is followed to prepare the nightly forecast.

SUCCESSFUL weather forecasting is dependent almost entirely on the means at the disposal of the Meteorologist for constructing a weather map showing the pressure systems over a wide area on either side of the country he has to forecast for.

In the first place, it must be understood that a meteorological organisation has a widespread network of weather-reporting stations from which, at certain arranged times, observations are transmitted by telegraph to the central office, which, for New Zealand, is in Wellington.

There are about fifty observers in New Zealand living as far apart as Cape Maria Van Diemen in the extreme north and Puysegur Point in the south. Reports are received also from Chatham Island, Norfolk Island, from various places in Australia, and from ships within a radius of one thousand miles of New Zealand.

Wireless telegraphy has been a very notable aid to the forecaster, as it has enabled him to chart the adjacent oceans, and, in a narrow country like New Zealand, this is especially necessary.

The reports, which are dispatched twice daily, at 9 a.m. and 4 p.m., to Wellington, consists of:

- (1) Barometer reading, reduced to sea level.
- (2) Temperature.
- (3) Wind direction and force.

- (4) State of weather; and in the case of coastal stations
- (5) State of sea.

All the information is plotted on a map, which, when completed, is called a "Synoptic Chart."

Maps Are Essential.

NO meteorologist in these days would attempt to make a forecast of weather without reference to such a map. No other practical means has been found of making it possible to secure a mental grasp of the variation of the weather over a large area. It is possible for an intelligent observer frequently to get some idea of the probable run of the weather from observations of local conditions alone but the success which attends forecasting of this kind must be very limited because the general conditions can seldom be correctly estimated. The official meteorologist has to forecast for a wide area. Some of the places to which his forecast goes are far distant from him; some of them he has never visited. He has, therefore, to form a mental picture of what is going on over the region and to base his estimate for the future on established general principles. There is no doubt that an observant person can amplify the official forecast from his own local knowledge, but he must get his ideas as to general situation from the official message. He has to guess what the weather map looks like.

It is important that the synoptic chart should cover a very wide area, and the one prepared every day in Wellington not only includes the New Zealand area but takes in the whole of Australia as well.

So as to make it possible to take in at a glance the prevailing weather, the latter is indicated on the map by letters or symbols which were originally introduced by Admiral Beaufort. For instance, b represents blue sky, c cloudy, o overcast, a black dot rain, etc.

Winds are drawn in by means of arrows pointing in the direction to which the wind is blowing and their force is indicated by the number of feathers in the arrow, one for each number on the Beaufort Scale. An arrow with one feather, then, would indicate a light air, three feathers a gentle breeze, five feathers a fresh breeze, and so on up to eight or nine feathers which represent gale and strong gale respectively. A calm is shown by means of a small circle.

The Basis of Forecasting.

FORECASTS are based principally on the distribution of air pressure or the way in which the barometer reading varies from one place to another on the chart. To show this pressure distribution, the person who prepares the chart draws "isobars" or lines of equal pressure. It is usual here to draw isobars for every tenth of an inch. There is an isobar for 30.0 inches, one for 29.9 inches, one for 29.8 inches, and so on. The object of the chart-maker in drawing the isobar for 30.0 inches, for instance, is to make it pass through all places on the map at which the pressure is 30.0 inches. He has to estimate the run of the isobar from the actual barometer readings reported from the observing stations. At all places on one side of the isobar for 30.0 inches the pressure will be above 30.0 inches and on the other side below it. Isobars may, therefore, be likened to the contour lines on an ordinary map.

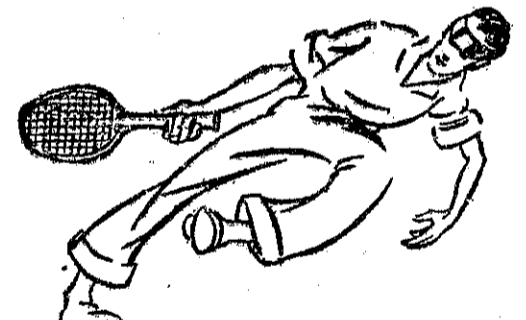
It is most important that the nature and use of isobars should be understood. Otherwise it will be impossible either to make a forecast for oneself or to appreciate fully the official forecast.

Isobars, then, are lines of equal pressure. It is this pressure distribution which determines the direction and force of the winds which we ex-

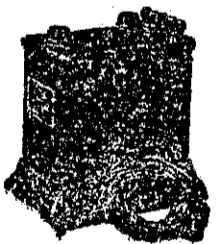
perience, and to the distribution of winds are related, to a great extent, the changes of temperature and weather.

What the Isobars Show.

HAVING drawn the isobars, it will be found that the lines assume certain shapes corresponding with well-defined pressure types or systems, and of these the two principal ones are the cyclone and the anti-cyclone. Both these systems are approximately circular or oval in shape. In the cyclone, the central or inner isobar marks the lowest pressure, while in the anti-cyclone pressure is highest in the centre and the outside rings or isobars represent lower pressures or barometer readings. A region where the barometers are low is called a depression or colloquially a "low," the



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corresponding high pressure region being called a "high."

The cyclone is not the commonest type of "low" which affects New Zealand. More frequently the "low" is shaped like an inverted "V" with the isobars wider to the southwards. Such depressions are wedged in from the south between adjacent anti-cyclones. Should the isobars take on the form of a wide inverted "V" so that they are almost straight lines, they produce the westerly type of weather.

There are several other forms or groups of isobars which appear on our weather charts, some of the more important types of which may be mentioned. In the rear of a cyclone there will sometimes develop a smaller depression which is termed a "secondary." It may be a further centre or merely a loop or sinuosity in one or more of the isobars. Though usually short-lived the rain is often heavy in a secondary and atmospheric conditions are often very disturbed. Hail, thunder, snow or a cold snap may be experienced.

Then we have wedge-shaped isobars, a projecting area of high-pressure wedged between two "lows." The wedge most frequently points to the south. It is a fair-weather type of pressure distribution but the fine weather is usually of brief duration because of the "low" which follows. It is a case when the saying: "It cleared too quickly to last" might be applied.

Another system is the Col, which is a ridge of relatively high pressures lying between two adjacent depressions and joining two anti-cyclones. Here we get variable winds or calms with usually fine and sometimes brilliant weather, but occasionally dull, gloomy conditions possibly with thunderstorms.

Lastly we may mention straight isobars. They are called straight from the fact that they have no curvature over a large area. Usually the low-pressure isobars are on the polar side with high pressure to the northwards, so that the winds are from some westerly direction in conformity with the isobaric trend. With this type there is associated great diversity of weather with somewhat unsettled conditions where the pressure is low and fair or fine weather where it is high.

The Influence of Winds.

UPON inspecting the different types of weather charts certain facts will be noted with regard to winds. The latter will be observed to blow with fairly marked uniformity of direction and velocity. They will nearly always blow along the isobars, and if you stand with your back to the wind, barometers will be lower on your right hand than on your left. The wind does not assume a direction strictly parallel with the isobars but is inclined at an angle across the isobar from high towards low pressure.

Thus we have the wind rotating round the centre of a cyclone in a similar direction to the hands of a watch but spirally inwards so that with the cyclone moving in an easterly direction, in front of the centre the winds are northerly, and, in the rear, southerly; directly north of the centre they are westerly, while to the south, easterlies prevail.

On the other hand, the winds in an anti-cyclone move round the centre in a direction contrary to the hands of a watch, and at the same time spirally

outwards, the front of the centre having southerly and the rear northerly winds.

Next we must consider the force of the wind, which is related to the rate at which the pressure changes as you move from high towards low pressure. If we draw a line joining two adjacent isobars and at right angles to them, the measure of this line is called a "gradient." The shorter this distance

It is equally possible for gales and heavy rain to occur in the southern V-shaped depressions, although as a rule, the two types produce the most severe effects in different parts of the Dominion. Our severest southerly and south-easterly weather usually occurs in the rear of cyclones, whereas in V-shaped depressions, winds are usually from some westerly direction, and it is districts with a

country in the prevailing winds, and where they reach the ground, are usually destructive. In New Zealand, they are rare, and usually small, and of no great violence. The removal of a roof or two, the shifting of small sheds, or the uprooting of trees is usually the extent of the damage they cause.

The weather in a depression, or an anti-cyclone differs materially according to the situation of their centres. It will be generally noted, however, that unsettled conditions, with strong winds and rain, are associated with "lows," while quiet and fair, to fine weather is experienced with anti-cyclones or "highs."

Summing up the Data.

IT is the business of the meteorologist to find out in what direction the depressions and anti-cyclones within the area covered by his map, are going to move, and how they are going to change, and accordingly to anticipate the changes of wind and weather incidental to their movements.

If a series of synoptic charts are examined together, it will be discovered that the areas of high and low pressure follow one another in succession from west to east at intervals, and it is this important fact which enables us to give notice of changes likely to take place.

Having briefly considered some of the main weather controls and the principles on which forecasts are based, we may now examine some of the actual charts themselves. It is difficult without resource to such examples to explain pressure systems, their movements and the wind and weather associated with them. Following, therefore, are given some small-scale reproductions of isobaric charts prepared and used by the Meteorological Office in issuing weather forecasts.

In Figure 1, which shows the chart for Monday, August 6, 1928, there are two anticyclones. One having recently crossed the northern Tasman Sea is now centred north-east of East Cape, while the other, an extensive one, stretches from the South Island over the Tasman Sea and the whole of Australia. The anticyclone exhibits the eastward advance characteristic of pressure systems and, barometers are rising over the greater part of New Zealand but in the extreme north a slight fall is taking place on account of a cyclone north of Norfolk Island, pushing its way in a south-east direction. From the South Island extending eastward to the Chatham Islands there is a moderate depression of the westerly or southern type. The latter crossed the South Island during the previous day and caused moderate

WEATHER REPORT: THURSDAY, AUGUST 16, 1928.

Station.	Barometer.	Temp. deg. F.	Direction.	Wind Force.	Weather.	Sea.	Notes.
Norfolk Island	30.04	—	S.W.	6	bc		
Awanui	29.66	58	S.W.	6	bc		
Auckland	29.49	55	W.	6	c		Heavy rain in night
East Cape	29.28	54	W.N.W.	3	c	Mod.	Rain 114pts.
Cape Egmont	29.59	48	S.W.	2	r	Mod.	Mod. rain in night.
Napier	29.27	53	S.	2	b	Mod.	Heavy rain in night.
Farewell Spit	29.43	50	W.	3	c	Mod.	Rain, 11 pts.
Stephen Island	29.43	53	S.	7	c	Rough	Rain, 112pts.
Wellington	29.44	44	S.S.W.	9	o		Rain, 23pts.
Cape Campbell	Interrupted.						
Greymouth	29.58	47	E.	3	o	Mod.	
Akaroa Lighthouse	29.67	44	S.W.	8	ofr	Heavy	Heavy rain in night.
Nugget Point	29.89	39	E.	2	o	Mod.	Light rain in night.
Puyssegur Point	29.89	42	S.E.	5	bc	Mod.	
Chatham Island	29.31	49	E.S.E.	2	o	Smooth	
Sydney	30.00	—	W.	1	f		
Hobart	29.60	—					
U.S.S. Maunganui:							
Lat. 37 S.							
Long. 178 W.	29.28	—	N.W.	7	c	Rough	
U.S.S. Niagara:							
Lat. 34 S.							
Long. 166 E.	29.88	—	S.W.	5	bc	Rough	Heavy W.S.W. swell
U.S.S. Kaiwarra:							
Lat. 43 S.							
Long. 161 E.	30.00	—	S.W.	4	od	Mod.	Mod. southerly swell.

Beaufort Scale of Wind Force with Equivalent Velocities at 16ft. above Ground.—0 Calm, 0-1 m.p.h.; 1 Light air, 2-3; 2 Slight breeze, 4-7; 3 Gentle breeze, 8-11; 4 Moderate breeze, 12-16; 5 Fresh breeze, 17-21; 6 Strong breeze, 22-27; 7 High wind, 28-33; 8 Gale, 34-40; 9 Strong gale, 41-48; 10 Whole gale, 49-56; 11 Storm, 57-65; 12 Hurricane. Weather.—(b) Blue sky, cloud amount 0-3 tenths; (bc) Blue sky and detached clouds, cloud amount 4-6 tenths;

(c) Cloudy, cloud amount 7-8 tenths; (o) Overcast, cloud amount 9-10 tenths; (g) Gloomy, dull; (u) Ugly, threatening; (r) Continuous or steady rain; (s) Snow; (d) Drizzle; (p) Passing showers; (h) Hail; (q) Squally; (l) Lightning; (t) Thunder; (f) Fog; (m) Mist; (z) Haze. State of Sea and Swell.—0 No swell, 1 Mod. swell, 2 Heavy swell, calm or slight sea; 3 No swell, 4 Mod. swell, 5 Heavy swell, Mod. sea; 6 Rather rough sea; 7 Rough sea; 8 Very rough sea; 9 Mountainous sea.

is the greater or steeper is the gradient, just in the same way that the bunching of contours on an ordinary map denotes steepness of hills. The strength of the wind, then, depends on the distance between the isobars, the force increasing as the isobars lie closer together.

Usually the isobars in a cyclone are closer together than in an anti-cyclone, and this accounts for the stronger winds experienced with the former system.

Cyclones and Anti-Cyclones.

SOME people apparently are apprehensive at the mere mention of the term "cyclone." It should, however, be understood that the term applies to the particular type of pressure system in which we have isobars enclosing a low-pressure centre, and that not only do cyclones vary greatly in intensity but their characteristics are different in different latitudes. In the tropics they are usually small and intense, and the heavy rain, hurricanes, and sometimes tidal waves they produce do great damage over small areas; but by the time such a cyclone has moved to temperate latitudes it has extended and covers a much wider area, and the isobars are not so close together, and though there may be gales and heavy rain in parts of the cyclone they are seldom violent or destructive.

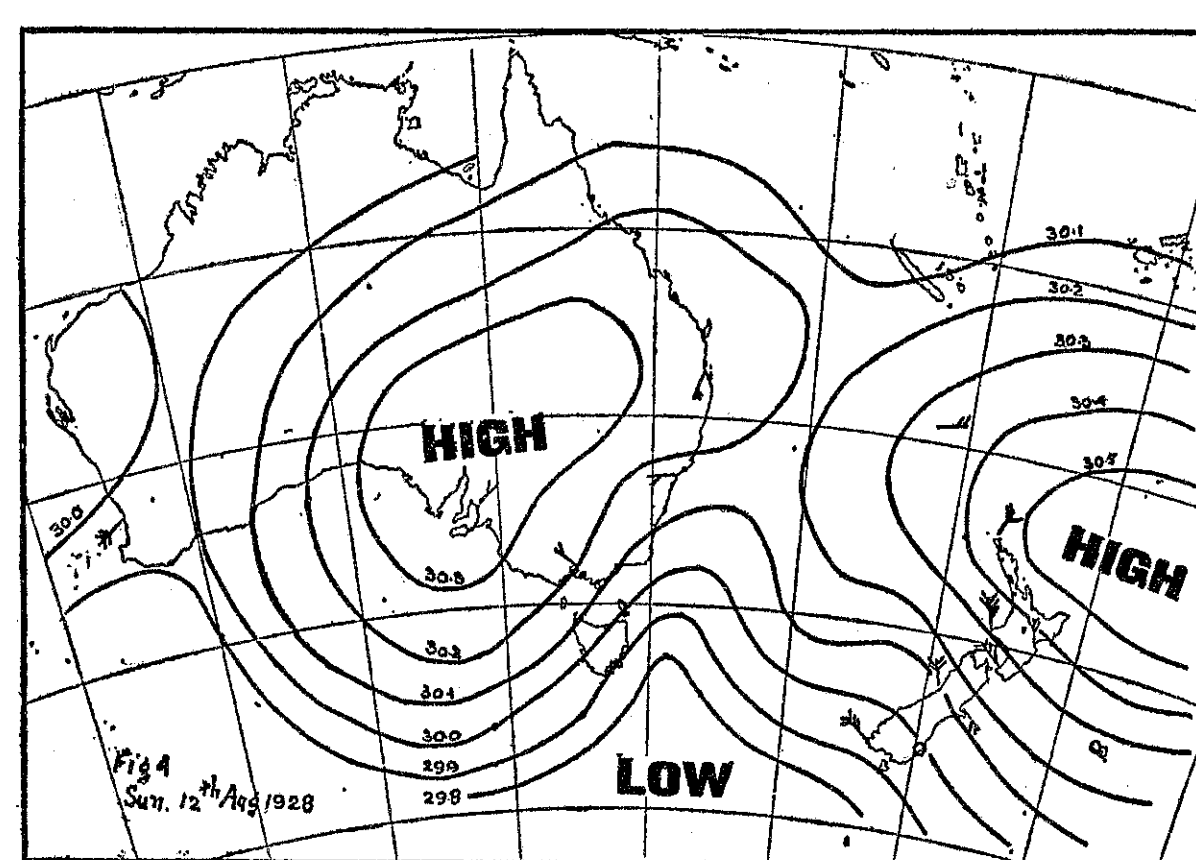
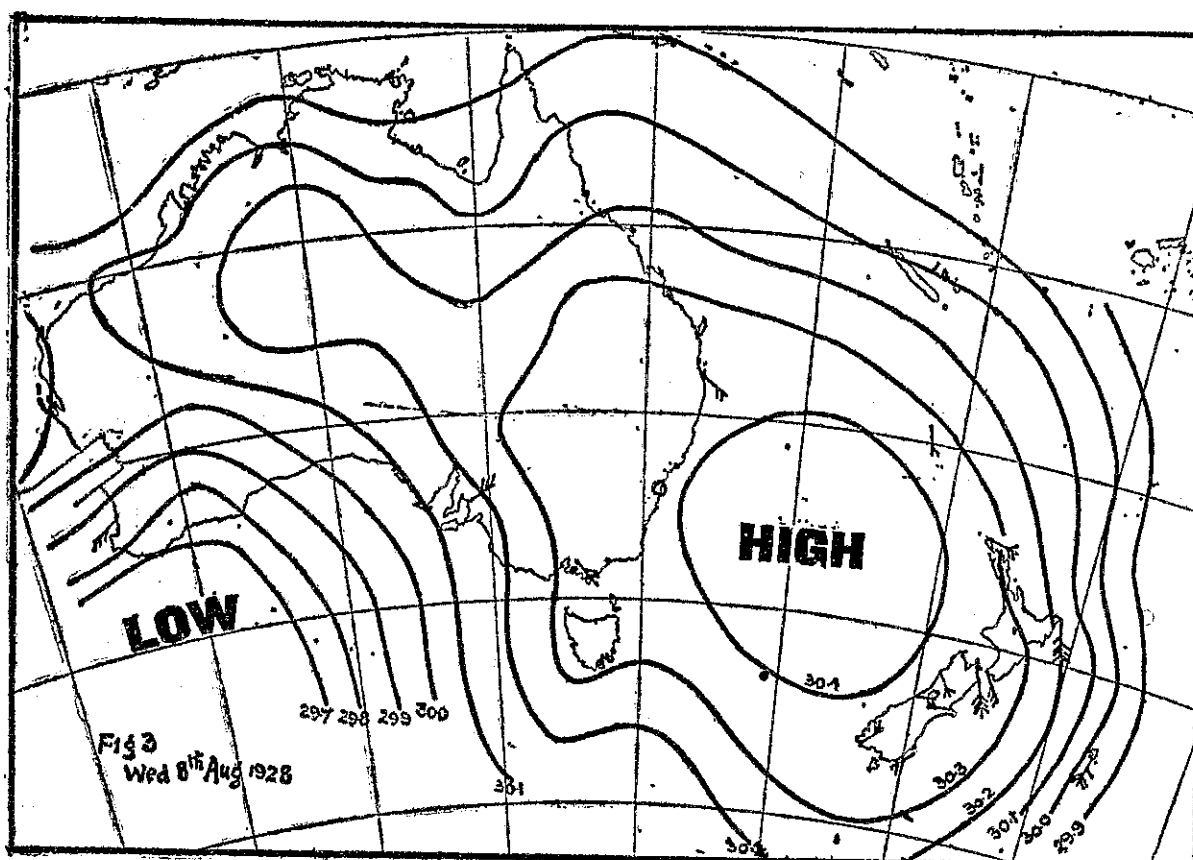
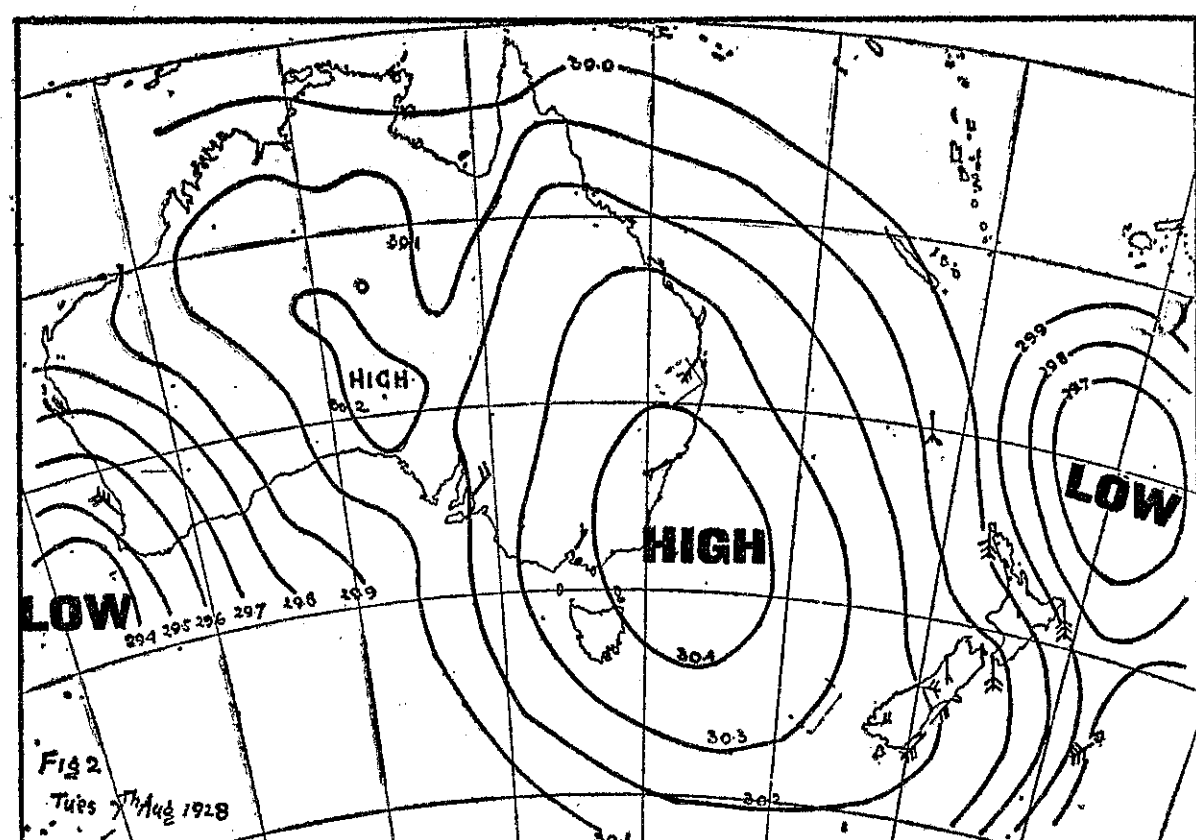
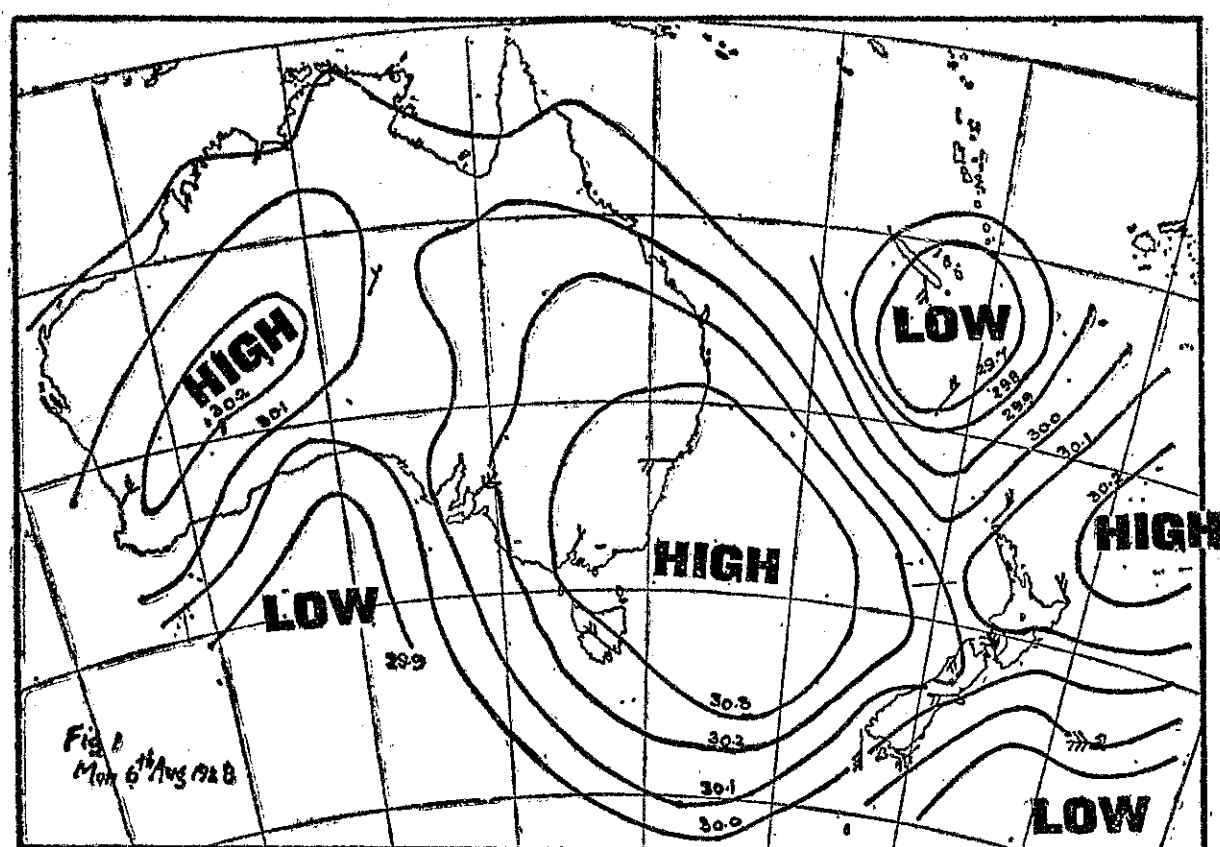
westerly aspect that suffer most. It is for such reasons that it is necessary to distinguish between cyclones and other forms of depression. It is to be remembered, however, that it is just one of our storm types, and need usually be no cause for apprehension. usually be no cause for apprehension. Not only is there confusion between the temperate and the tropical types of cyclone, but the tornado is often called by the newspapers a "cyclone." Tornadoes are atmospheric whirls of a diameter varying from a few yards to a quarter of a mile, and, in America, even more. They are usually associated with wind-shift lines, or violent thunderstorms. They move across the



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These four maps together illustrate the weather conditions at the time of the big blow in Wellington which damaged the Hutt railway.

to fresh north-west winds in and south of Cook Strait with scattered rain in Westland and Southern Otago, the winds backing to southerlies in the rear of the depression and in front of the advancing anticyclone. The development of the northern cyclone, however, and the position of the "high" which is departing east of the North Island have complicated matters and the winds are rather variable.

Figure 2, the chart for the next day, August 7, shows that since the previous day the northern cyclone has passed rapidly to the south-east and is now apparently centred in the neighbourhood of the Kermadec Islands. Though still relatively low in the far North and about East Cape, pressure is rising everywhere over New Zealand as the large anticyclone to the eastward is gradually advancing. Winds are now more generally southerly as the North Island is being affected by the rear of the cyclone and New Zealand generally by the front of the advancing "high." North of Auckland there had been rain on account of the proximity of the cyclone, but it is now rapidly clearing in those parts and fair to fine weather rules over the Dominion, though the freshening southerly winds in front of the "High" have been accompanied by some scat-

tered showers on the East Coast south from East Cape. Figure 2 also shows that since the previous day a new depression has advanced towards Western Australia.

Figure 3, August 8.—The northern cyclone has passed entirely beyond the area covered by the map, while the anti-cyclone has travelled farther east and is now centred over the central Tasman Sea. New Zealand, being still in front of the centre, is experiencing southerly winds and mainly fair weather, but on account of the steep gradient to the east the southerlies have been strong, reaching gale force at places on the east coast between Akaroa and East Cape, and during the previous night there were some heavy rain squalls on the latter coast. The depression which originally was situated west of Australia is now in the South Australian Bight, and a new anti-cyclone is appearing further westward.

In Figure 4, August 12, the intense anti-cyclone which on the 8th was centred over the Tasman Sea is now shown east of the North Island. During its passage over New Zealand from the 8th to the 12th it was accompanied by very fine, pleasant weather with light and variable winds. The clear, calm atmosphere gave free play to the effects of radiation, and many districts experienced fairly severe frosts.

With winter anti-cyclones, also, there is a tendency for the development of fogs, and morning fogs were prevalent on the several days while this anti-cyclone dominated the situation. During the 11th the winds tended northerly, and by the 12th northerlies were general over New Zealand in the rear of the "High" and were freshening with the advance of a depression over the southern Tasman Sea. The latter is identical with the one shown in Figures 2 and 3, and which was then situated south of Western Australia. It now lies between the departing anti-cyclone and one covering Australia, the centre of the latter having moved from west of Australia since the 8th of August.

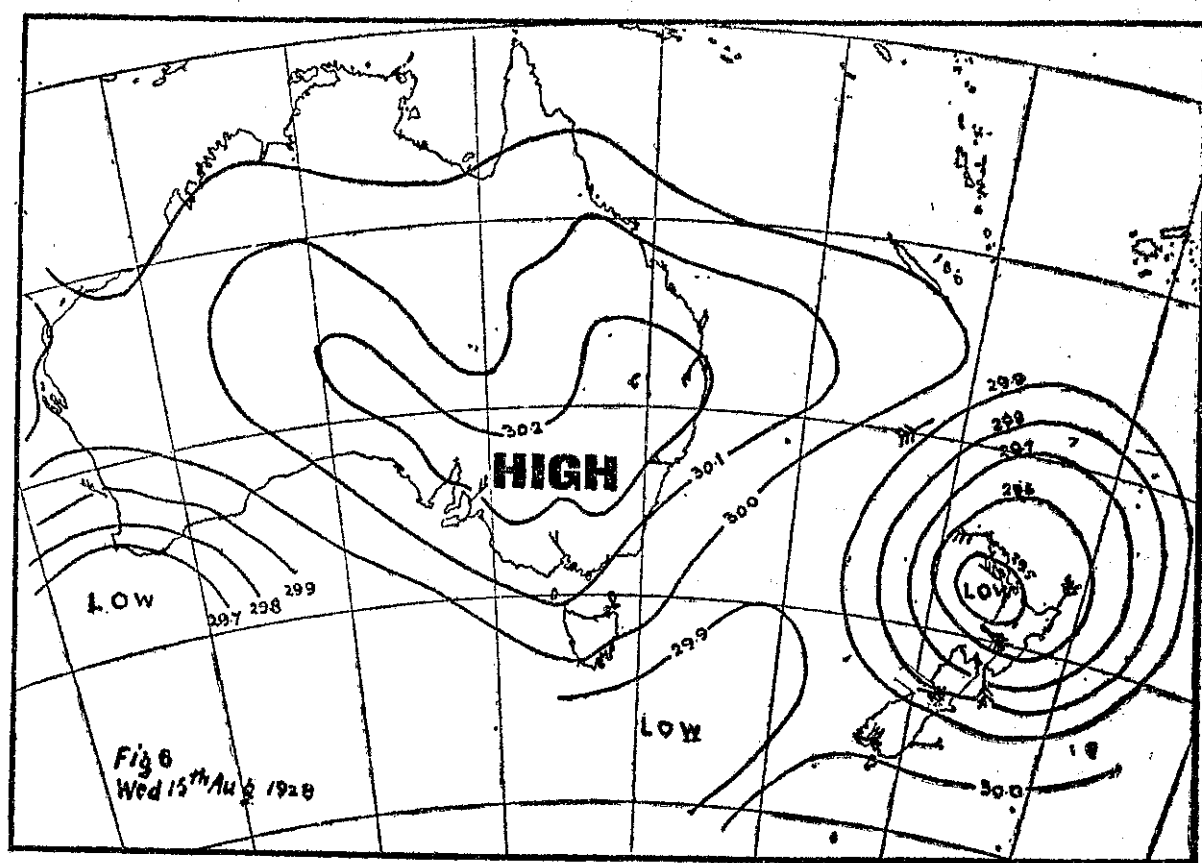
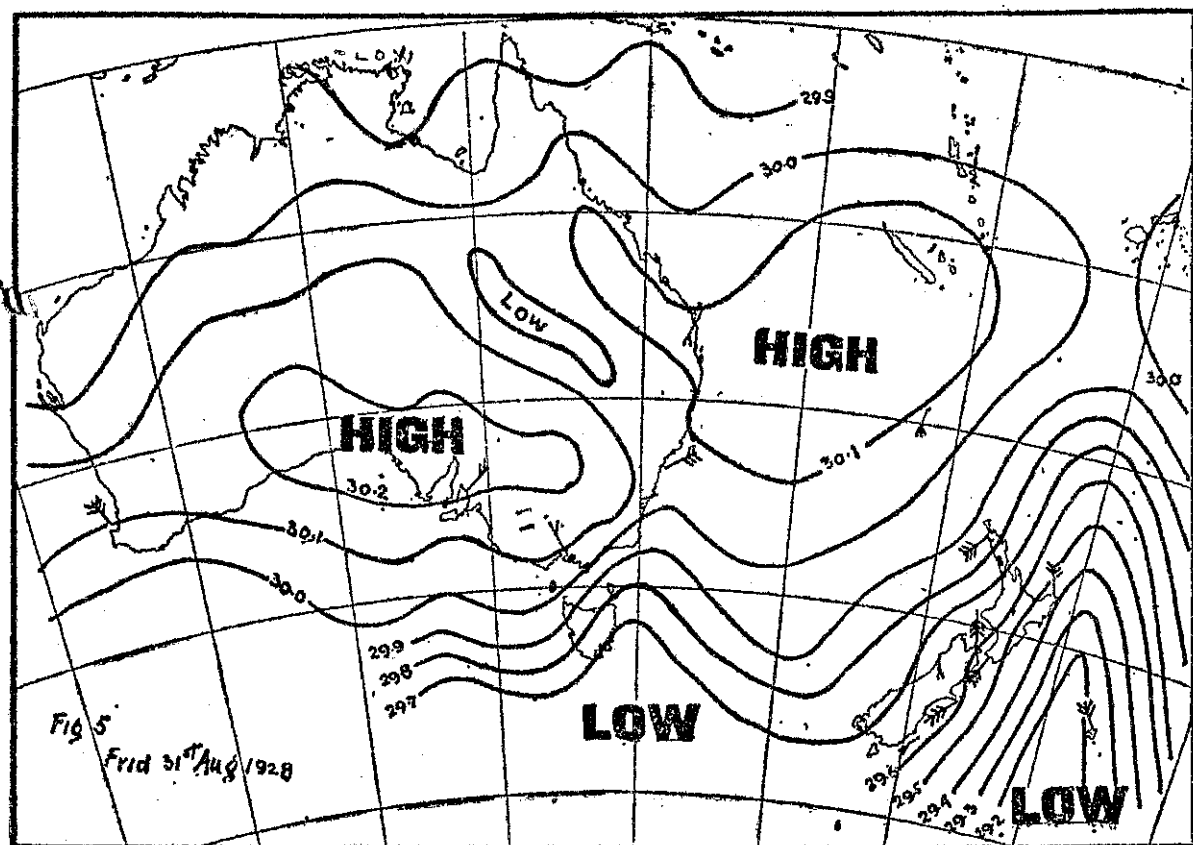
This series of charts, Figures 1 to 4, is interesting as showing the paths of the different "Highs" and "Lows" from west to east. There is, however, a seasonal variation in the movement of anticyclones which has a marked effect on the weather of the Dominion. Anticyclones, for instance, follow a more southerly track in summer than in winter and spring, and, as a result, in the latter seasons, southern or V-shaped depressions are able to extend farther north. It is this effect which is one of the chief causes of the more marked prevalence of strong, north-westerly winds in the spring season.

Types of Depressions.

IN Figure 4 there is shown a moderate "V" depression. Occasionally these depressions develop considerable intensity, and Figure 5, August 31, shows one with this characteristic. It is situated east of New Zealand, its trough having crossed the Dominion during the night of the 30th. There were strong northerly winds generally during the 30th, reaching gale force at many places. The passage of the trough or line of minimum pressures, as is generally the case, was marked by a sudden backing of winds to a southerly direction. The change was accompanied by very cold, squally conditions, rain in most districts and snow in many parts of the South Island and on some of the ranges in the southern districts of the North Island.

This type of depression is usually followed by one or more secondaries, and when this happens the winds will veer to west and north as each of the low-pressure waves approaches New Zealand, and they will back again to south-west after it has passed, in conformity with the trend of the isobars.

A characteristic effect of this type of depression is the occurrence of the warm, dry north-west winds in the East Coast districts in front of the trough, more especially in the Canterbury Plains. This is a similar wind to



the "Fohn" wind experienced in the Alpine valleys of Switzerland. Both dryness and high temperature effects are caused by the compression of the air in its change from high to low level, when passing over the mountains to the west of the plains where it has parted with its moisture on the windward slopes.

In figures 6 and 7 we have a typical example of a cyclone. The development of this cyclone took place in the northern portion of a depression of the westerly type, and, on the afternoon of August 14, a definite centre was indicated on the weather chart north-west of Auckland. From then on it increased rapidly in intensity, and by the 15th the centre had moved southwards, and, as shown by the chart, fig. 6, was situated north of Cape Egmont. The usual direction of the winds round a cyclone centre, i.e., clockwise, is well shown in this instance. At East Cape, which is in front of the centre, it is north-easterly, at Cape Maria van Diemen westerly, at Cape Egmont south-easterly, and farther south chiefly easterly or southern winds prevail. By the morning of August 16 (figure 7) the centre had crossed the North Island, and was then east of Napier; winds on the 16th were mainly westerly north from Cape Egmont and Napier, and southerly thence southwards.

On account of the steep gradient in this cyclone, gales were fairly widespread during both August 15 and 16, and the southerlies were particularly strong in Cook Strait. It was this particular storm, on account of the heavy seas it caused, which damaged the railway lines on the harbour front between Kaiwarra and Petone.

The North Island experienced general rains on both days, with some heavy falls, the greatest occurring in the East Coast region. Over four inches for 24 hours was measured at some places.

Although the paths followed by the centres of cyclones are occasionally very erratic, they are usually fairly definite, the most common route taken being from north-west of New Zealand across or north of the North Island to the south-east.

They may, however, originate north-east of New Zealand, and advance from

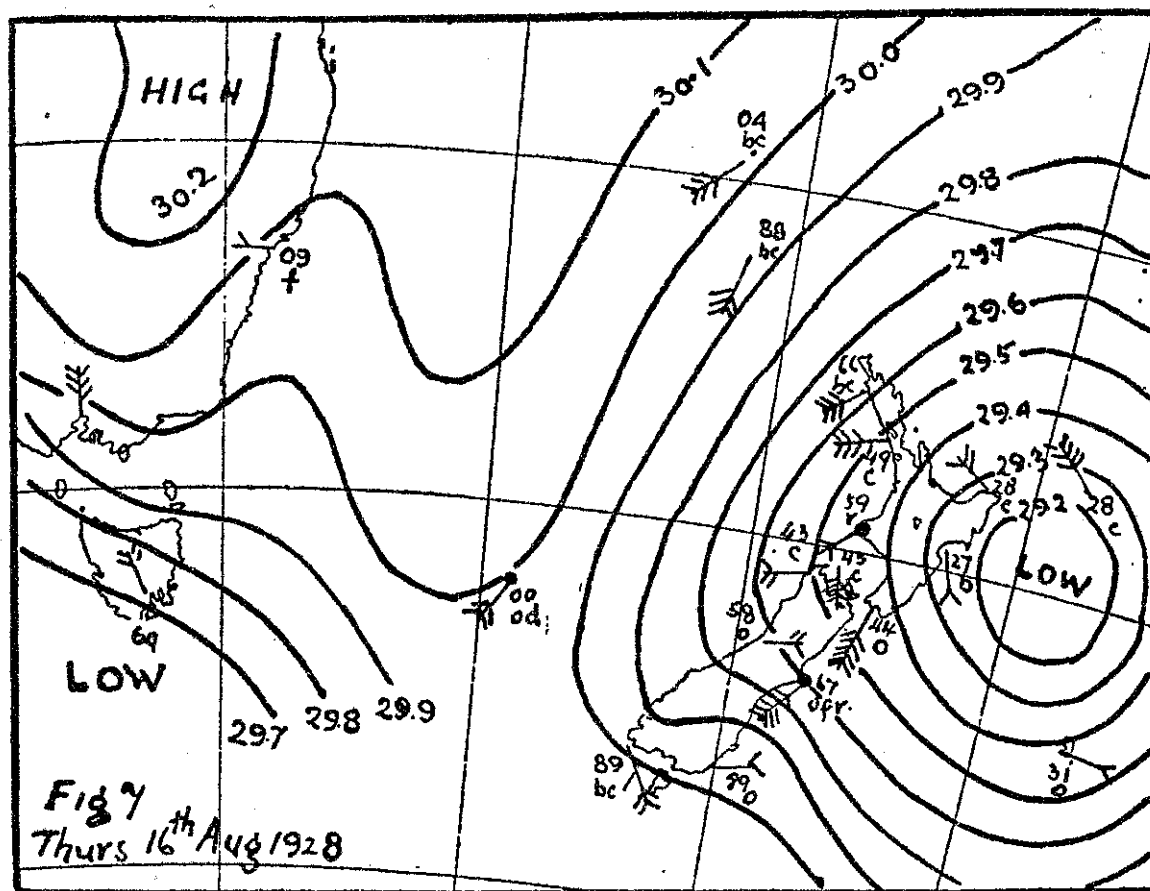
the direction of the Kermadec Islands towards East Cape, off which point they finally re-curve and pass to the south-east. This type of cyclone will sometimes remain stationary off East Cape for several days, while an anticyclone is situated over the South Island, and may be accompanied by severe south-east gales on the East Coast north from Kaikoura.

The movement of "V" or southern depressions from west to east varies

Anticyclones are more leisurely in their movements taking, most frequently, about six days to come from western Australia to New Zealand, but sometimes longer. They also have a habit of remaining stationary for several days.

Value of Wide Sources.

OWING to the charts herein having to be produced on such a small



so considerably that it would be hardly possible to give an average rate. It may be as low as 400 miles or as high as 1000 miles per day. Unlike cyclones, however, the paths of these depressions are well defined, and they can nearly always be followed from western Australia across southern Australia, Tasmania, the Tasman Sea and New Zealand to beyond the Chatham Islands.

On the other hand, just as the path of cyclones is more erratic, more variable still is the rate at which they move. A cyclone centre has been known to move from near Hobart, where it was situated at 4 p.m. one day, to the vicinity of Foveaux Strait by 9 o'clock the following morning, which is equal to a rate of about 64 miles an hour.

scale, it was impossible to fill in the meteorological information conveyed in the weather reports as is done in the originals. To draw isobars in such detail as is shown in Figures 1 to 6, one requires to have reports from a very large number of stations, but quite a serviceable chart might be constructed from a reduced number as Figure 7 will show. It is based on the information received from the stations following. These stations are the ones whose weather reports it is intended to broadcast, as mentioned later. Wireless weather reports from three ships are included in the table. At the end of the table there is given the Beaufort Scale of wind force with equivalent velocities, the Beaufort weather notation and notation for state of sea and swell.

Incessant Change.

IT will be obvious to those who read this brief sketch and examine closely the weather charts reproduced herein that pressure systems are constantly changing in form, position, and rate of movement, and that, as a result, there are always new developments taking place in the meteorological situation.

In order, therefore, not to lose the sequence of meteorological events, synoptic charts are prepared twice each day at Wellington, at 9 a.m. and 4 p.m., and forecasts, based on these charts, are issued each morning and evening. In addition to the forecast which has hitherto been broadcast there will henceforth be added reports from various places in New Zealand, from Norfolk and Chatham Islands and from Sydney and Hobart, which will give the actual pressure, wind, weather, etc., ruling at 4 p.m. Besides the precise information which these reports will give of conditions prevailing at the places concerned, they will enable the listener-in to draw his own weather chart. This is a practice being followed very largely by mariners in European and American waters, and is one which will, no doubt, be increasingly adopted by those sailing in these regions. But there is no reason why intelligent farmers, school teachers, students, and others interested in the weather should not do the same. By drawing his own weather chart an individual will gain much information which it is impossible to include in the forecast without making it too lengthy. Particularly will he be able to obtain a longer view of the weather changes and of their probable course for several days to come.

FOR the benefit of shipping, the information will be issued in Morse from the Wellington Radio Station at 9 p.m. N.Z.S.T., as well as being broadcast by the Radio Broadcasting Company between 7 and 8 p.m. Forms are being prepared which will include space for entering the reports and forecasts as sent from Wellington, and also a map of the New Zealand and surrounding areas for use in plotting the isobars. These forms will be issued freely to such ships as supply the Meteorological Office with weather reports, and at cost price to others requiring them.

(Continued on page 9.)

The New Zealand Radio Record

P.O. BOX, 1032, WELLINGTON.

Published Weekly. Subscription Post Free in advance, 10s. per annum; booked 12s. 6d.

WELLINGTON, FRIDAY, NOVEMBER 16, 1928.

EDITORIAL NOTES.

A RATHER curious position has arisen in connection with the broadcasting of the Auckland Municipal Band concerts. Up to recently both band concerts and organ recitals from the Town Hall were broadcast, in terms of an agreement between the company and the City Council, but just prior to the expiration of the agreement the Broadcasting Company advised the City Council that it did not wish a renewal, so far as the organ recitals were concerned, as they were not popular with listeners.

THE municipal concerts are not a financial success for the City Council, and when it came to the opening of negotiations regarding the band entertainments, the figure quoted to the Broadcasting Company for the right to broadcast the band concerts was £750 for a year. The council fixed this price in order to make sure that the concerts would pay their way, but in making the proposition the council did not take into account the Broadcasting Company's viewpoint.

THE council's offer comprises 37 concerts, which would average more than £20 a concert. In addition, 26 of the concerts would be given in various parks in the city, so that in addition to the sum paid to the council, 1YA would have to face relay expenses to three different parks, one of which is over three miles from the studio.

THE City Council has been adamant in the attitude it has taken up, and will not accept less than £750, which figure is, of course, impossible from 1YA's point of view. Labouring under a misapprehension, due to viewing the municipal concerts from a wrong angle, the City Council blames broadcasting for the unsatisfactory financial results, and in setting such a high figure for the right to broadcast the council evidently wishes the company to guarantee it against loss. The figure in question is £250 higher than the bandmaster's salary, so that the council would have to stand very little loss in the event of the attendance at the concerts being practically nil. The council overlooks the fact that for the figure asked 1YA could form a band of its own with a first-class conductor. Broadcasting is not to blame for the losses incurred by municipal concerts. There is room for further investigation by the council.

Concerto for Violin and Orchestra

3YA to Broadcast World Premiere

FOR the first time in its history Christchurch will hear the world-premiere of a new and unpublished musical work when, at its next concert on December 5 the Christchurch Orchestral Society will play the Concertstuck in D Minor for violin and orchestra, composed by its conductor, Mr. Angus Gunter. The soloist will be Miss Joan Carter.

The first performance of this fine work must attract considerable attention, not merely in Christchurch, but throughout the Dominion, for it is to be broadcast by 3YA.

Burgess Batteries are used
in all big events

WHY?

More Burgess Batteries are
sold in New Zealand than
any other

WHY?

Relay of Wanganui Band Concert

Splendid Programme Arranged for December 7.

THE organisers of the concert which is to be broadcast on relay from Wanganui on Friday, December 7, have already arranged their programme. A covering letter says: "Without doubt this will be one of the finest programmes ever submitted to a Wanganui audience, and we are vain enough to think that it would be hard to beat it in any of the cities."

IN supporting this contention the writer mentions the talent which will be contributing: Mr. Hubert Carter (the great New Zealand tenor), Mr. Keith Grant, Mrs. Leo Campion, Miss Edna Greenwood, Mrs. S. Wills, Miss Vivienne Ralph, Mr. Gordon Bergerson (champion cornetist), Mr. J. G. Swan (a veteran elocutionist, but still in the first flight), Mrs. T. L. Sperring (monologue entertainer), Mrs. G. E. Tarrant, Master Jack Buckley (12-year-old cornet player), the Wanganui Primary Schools Harmonica Band of 60 performers, and of course, the Queen Alexandra's Own Band, the champion band of New Zealand. The accompanists will be Mr. Gordon McBeth and Mr. Horatio Nelson.

Sportsmen Well Catered For

Re-broadcast of Melbourne Cup

ALTHOUGH the racing ban is still operating in New Zealand, and denying so much enjoyment to the ever-increasing numbers of racing enthusiasts, yet the R.B.C. does its best to meet the unwelcome situation.

Not alone are the company in trying to satisfy their listeners. Wide operation, involving prominent sporting authorities and the members of the radio trade enables listeners to get a reasonably good service under the restrictions. Where possible, the ban has been "dodged," and a running description given, but to this there are serious limitations.

During the Canterbury Carnival an excellent service was rendered listeners in all parts of New Zealand, and the details of the races were not long in coming over the air when once they were obtained.

TUESDAY last, a great effort was made to relay the running description from 2ME, Sydney, of the Melbourne Cup. This race is the greatest event of the year to racing enthusiasts of the Southern Hemisphere. Naturally there is no ban to contend with in Australia, and the announcer, from his point of vantage was able to give a great description of the event.

The thanks of listeners are due to "Mack," of Mack's Radio, for again offering his services. Mack has always been to the fore when there is any relaying to be done, and 2YA is indeed fortunate to be able to command the willing services of so able a technician.

Early in the afternoon an attempt was made to relay 2ME, but, as all radio people know, daylight reception is very uncertain, and the attempt was not altogether successful.

THE great race, however, was not till late, about five o'clock New Zealand time, so that from an early hour until about this time Mack had an "interesting" time with the Aussie—fading, static, interference. What was humanly possible to control, Mack controlled. At about five o'clock (the usual closing-down time), 2YA went to 2ME. Even then conditions were bad, but with tenacity Mack held on to the elusive Australian. Listeners were enabled then to hear the announcer discussing the horses as they went out, speculating on their chances. Then the air, seeming to yield to the demands of thousands, cleared, and when the great race started till it finished, the signals were reasonably steady—steady enough for listeners to follow the race intelligently.

The description from 2ME was very fine. The announcer had a pleasing voice, and a convincing delivery, and conveyed an excellent mental picture of the epic event.

Following the race, conditions were not too good, but they had been good long enough. Although fading was so pronounced, there was no sign of distortion, yet the signals had to pass through some eight or nine separate pieces of radio apparatus before reaching the listener.

To Succeed Uncle Ernest

Children's Song Service at 2YA

Owing to the resignation of the Rev. Ernest Weeks, Uncle Ernest of 2YA, who is leaving for England next month, Pastor Carpenter, of the Wellington Church of Christ, has been appointed to conduct the children's song services on Sunday evenings at 2YA.

It was the unanimous opinion of the 2YA Church Advisory Committee that Pastor Carpenter was eminently suited for the work. Pastor Carpenter has consented to fill the part.

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NEW PLYMOUTH.

S-O-S

TRAVEL IN COMFORT BY
CAR

WELLINGTON — PALMERSTON

Children's Sessions

AT 1YA

TUESDAY, NOVEMBER 20—Very welcome news this evening! Aerial back again with his novelty turn on gramophone and piano. Greetings, Aerial, and welcome back. Uncle George also with us, and cousins playing piano.

WEDNESDAY—Uncle Tom will cheer us on our way, with songs, sketches and jokes. Cousins will sing and recite.

THURSDAY—Here is Peter Pan and with him the pupils of Mr. Arthur E. Wilson, who will entertain us for the first time.

FRIDAY—A merry and bright evening for all. Cousins will give a little play, Eunice and Rona will play duets and solos, and Aunt Jean and Nod are sure to have amusing stories and songs up their sleeves.

SATURDAY—This evening Cinderella has Aerial to assist her, which is very good news. Cousins will give dialogues and recitations, so prepare for a merry hour.

SUNDAY—Children's Song Service, conducted by Uncle Leo, assisted by cousins from Newton Congregational Sunday School.

AT 2YA.

MONDAY, NOVEMBER 19.—A trip to-night for the little tots with Uncle Jeff and Aunt Gwen in a fairy motor-car. Where will they go? They are not quite sure; they will let the fairy motor take them where it likes—won't that be fun?—but before leaving the station the pupils of Miss Joy Hoare will give you a musical programme and Uncle Jeff will say many happy returns of the day.

TUESDAY—To-night, my dears, you will gladly welcome your little friends, the pupils of Miss Myrtle Lee, we are sure.—They have a jolly little programme already for you, and of course Big Brother Jack will be here with his greetings, story and Robinson, the cock.

THURSDAY—An hour to-night of music and recitation, by Cousins Kathleen, Gerda, Phyllis and Fraser, also Cousin Claude is coming again with more Maori legends. Aunt Gwen will wish you happy birthdays and read you a bedtime story.

FRIDAY—Two little cousins with violin and piano, Joyce and Maurice, and Cousin Marjorie will sing some of her pretty songs. Uncle Ernest will send his greetings over the air and give you some of his wonderful stories and poems.

SATURDAY—To-night we have some new cousins coming, the pupils of Mrs. Percy Woods, so you can look forward to a jolly little hour. Uncle Toby and Aunt Gwen will be here, too, with birthday wishes and stories.

SUNDAY—The Song Service to-night will be conducted by Uncle Ernest, assisted by St. Aiden's Sunday school choir, Miramar, under Mrs. C. E. Wahlers.

AT 3YA.

MONDAY, NOVEMBER 19—Ah! A joyous hour this, of songs, duets, part-songs, and instrumental items by the young people from St. Mary's Convent, in honour of the Schubert Centenary. And Scatterjoy will have her usual winning stories for the little ones and the older children.

WEDNESDAY—Uncle Peter with his own special riddle book and stories, and Mother Hubbard with her own particular songs for the young folk. Cousin Ken and his banjo, and a merry evening is in front of you.

THURSDAY—Uncle Hal with a bag full of stories and songs. A group of Boys' High School pupils will provide an attractive half-hour's entertainment.

FRIDAY—Big Brother and a band of young folk from Standard 2, Wharenui School, will keep this bedtime hour jolly and gay.

SATURDAY—Chuckie and Aunt Pat calling their greeting to all little radio friends listening to-night. The Rennie trio, and Cousin Marjorie helping with music and song.

SUNDAY—To-night Mr. Taylor's orchestra and singers are coming to assist Uncle David with the Children's Song Service.

AT 4YA.

TUESDAY, NOVEMBER 20.—The Archerfield girls will be singing to-night from 4YA. All the family know that they are worth listening to. And Brother Bill takes the family down a coal-mine. Fancy having a party right down in the depths of the earth, among the twinkling lights of the miners' head lamps. And the usual jokes and riddles will be on the air, too.

FRIDAY.—Do you remember the Caversham School Choir that sang from 4YA long ago now? Well, they are on the air again to-night. Big Brother Bill and Aunt Sheila will be on the air, too, with songs and stories. And the radio postie goes his rounds to all the birthday folk.

"I WONDER."

When I think of the wireless wave,
Of its flight through the great concave,
I marvel how New Zealand hears
The buzz of a bee in Algiers.
—"Radio Times."

Armistice Day Celebrations in London

ATTEMPT was made to re-broadcast the Armistice Day celebrations in London by 2YA and other New Zealand stations. In the case of 2YA a certain measure of success was attained by the effort made on Sunday at 10.30 p.m. This was the service at the Cenotaph.

The service in Trafalgar Square, which was timed for 2 a.m. on Monday morning, was also re-broadcast with a certain degree of success, although it was not what might be termed a brilliant success.

Definite failure has to be recorded in regard to the service at St. Martin-in-the-Feld, taking place at 7.30 a.m. New Zealand summer time. All that 2YA could pick up this time was the announcement asking listeners to stand by.

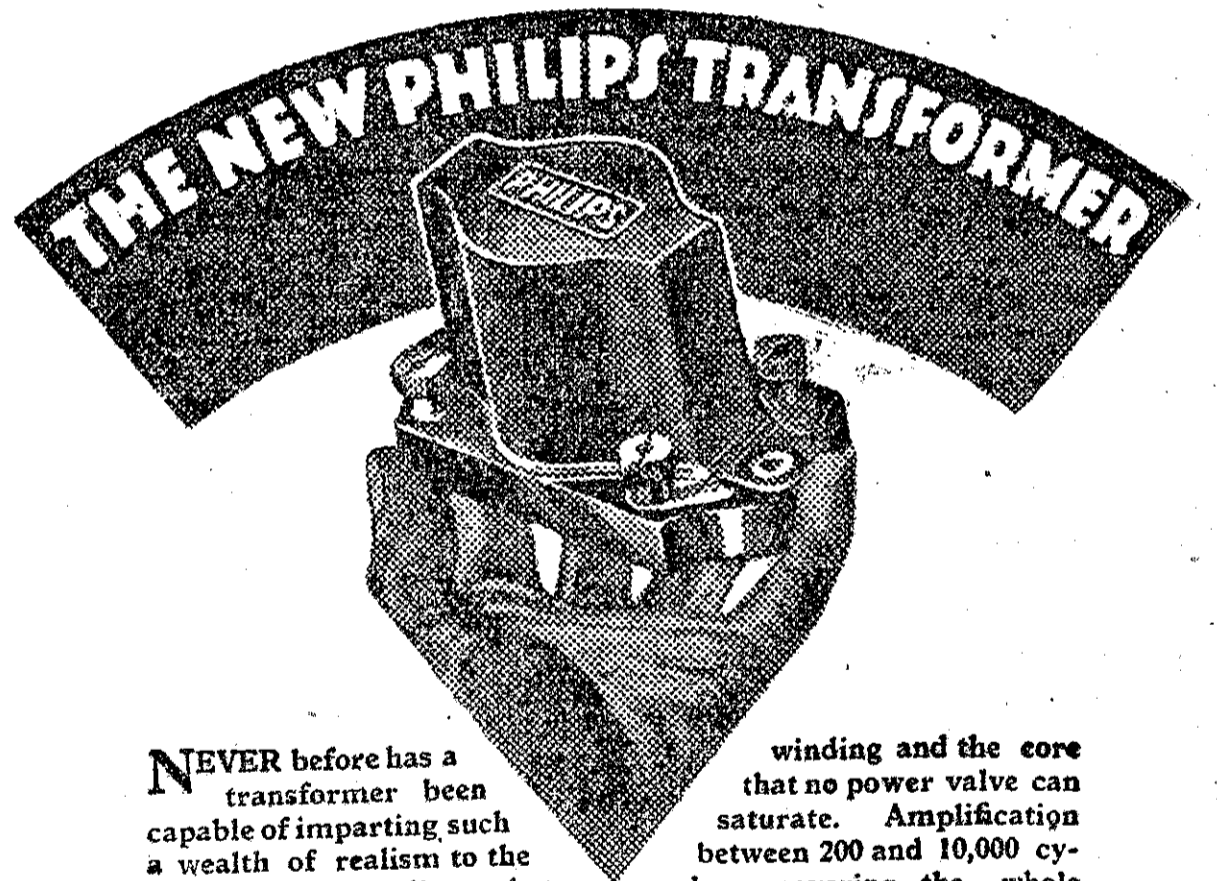
At 8.30 a.m. for the Albert Hall service nothing could be heard beyond the carrier wave of 5SW.

Although the result in Wellington was not as successful as was desired, still the rebroadcast did give crystal users the opportunity of hearing voices from the other side of the world. In this Wellington would seem to have been more successful than Sydney, as an announcement from 2FC was heard to the effect that they had been unable to pick up any of the re-broadcast.

A notable feature of the 5SW transmission was that the studio announcements from Chelmsford were heard 100 per cent. clear, but not the transmissions from Whitehall and Trafalgar Square. This would indicate that the disability did not lie so much with 5SW itself as with the imperfection of the line between the out-door functions and 5SW.

3YA re-broadcast 2YA on the occasion of the Sunday night service, but picked up and re-broadcast the 2 a.m. service direct.

THE Broadcasting Company is by no means unique in receiving as it does a multitude of "comments." The following is an experience from 2BL. Writing from Wellington, a wrestling enthusiast ventilates his grievance and throws down the gauntlet:—"I have my wireless on time payment, and if this sort of thing continues, not only myself, but numbers of others I have spoken to, being sports, will return their sets." We have no information as to the law against "inciting members of the public to return radio sets (comments "Wireless Weekly"), nor do we know what Wellington wireless dealers will do in their awful predicament; but we would like to know what listeners think about the naive explanation "being sports!" And all this because the wrestling was not described one evening.



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winding and the core that no power valve can saturate. Amplification between 200 and 10,000 cycles—covering the whole range of music and speech frequencies—is absolutely constant, whilst frequencies above 10,000 cycles not being amplified to any extent, eliminates high frequency noises. The ratio is 3—1 and the dimensions $3\frac{1}{2} \times 1\frac{1}{2}$ inches at base, with a height of 2 inches.

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Record Season Foreshadowed at Olympia



THE last mail from England has brought a huge amount of literature bearing on the National Radio Exhibition held at Olympia, London, September 22 to 29. So great in importance has this most recent annual exhibition proved that the remarks previously made in the "Record" have proved totally inadequate to do justice to such an important event.

Mr. Owen's Observations.

OUR thanks are due to Mr. J. H. Owen, former president of the Wellington Radio Society, who has spared no trouble in obtaining literature for us on the subjects. Brightly coloured folders, attractive leaflets, bulky catalogues, and numerous magazines have come to hand from Mr. Owen. A letter which should prove of interest to all who remember this able wireless enthusiast, and all those who are at all interested in radio, has reached us from him.

"I send you per this post a catalogue of the Radio Exhibition at Olympia, also two bundles of catalogues. Of the latter one could fill a wheelbarrow in no time.

This article tells the story of the most wonderful Radio Exhibition ever held. Radio is no longer a novelty—it is now an essential.

The show is an immense success. The 2s. 6d. day was as full as the other days, 1s. 6d. Some 20,000 visitors each day made the task of viewing the exhibits a difficult one. Fancy four acres of exhibits, with 300 firms showing the latest gadgets in wireless. One stall was made in the model of a battleship with four funnels. Complete sets, loud-speaker, etc., lined the bulwarks, hatches, and decks, whilst a diminutive admiral in full regalia walked the bridge.

Many quaint mechanical figures drew attention to some special feature. One, a nigger, moved eyes, lips, head, and hands, and was a great attraction. Many stalls employed young girls dressed in sports costumes, and in smart attire, several at one stall. The smartest of these was the young lady whose picture (enclosed) is on the

face of the catalogue, and was distributing them herself.

SCREEN grid valve, sets with detector, followed by a pentode valve, were much in evidence, whilst the moving coil unit was on a score of stands in its latest improved form. The magnets are energised from a 6-volt accumulator or mains, and it is the most sensitive, and the best toned loud-speaker I have yet heard. The combined radio and gramophone, entirely self-contained, from the table form to the 200-guinea hall model, was a popular exhibit. No sets were working and no sounds were heard above the music from the Royal Flying Corps' Band.

Demonstrations were given in shops and offices adjacent to the show by the makers of well-known sets, and loud-speakers, valves, and batteries. These

firms called attention to their displays by large calico signs, printed and hung across the road overhead. By reference to some of the leaflets, which I send you, you will see that a great advance has been made in the manufacture of moving and fixed condensers, transformers, leaks, coils, fixed resistances, valves, and accessories generally.

The trade generally seems prosperous, and the stallholders I spoke to were satisfied with the large orders received.

Brilliant Spectacle.

TO do justice to the exhibition and the details sent by Mr. Owen, a special edition of the "Radio Record" would need to be prepared. Each of the English magazines has prepared special numbers, and even to rapidly read through these is a work of hours—but it is intensely interesting.

The National Exhibition is not a new feature. For the last five years the northern radio season has been introduced with an exhibition by the radio manufacturers. The fact that each exhibition is larger and more successful than its predecessor goes to prove that the public are realising the value of radio, and with the march of scientific application comes the greater

This £50 COLUMBIA Viva Tonal GRAFONOLA FREE

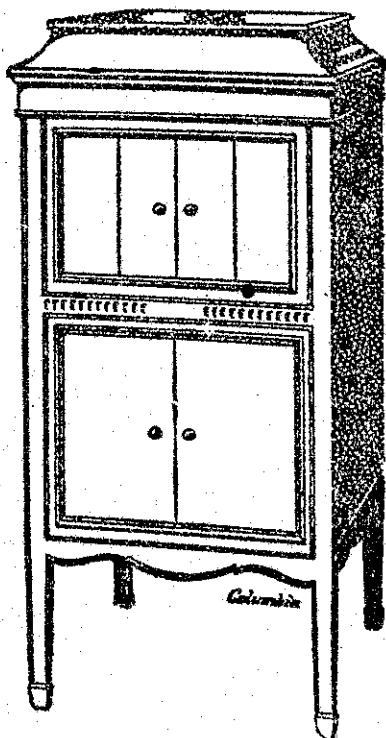
Read about the BIG RADIO PROGRAMME COMPETITION in this issue. (Page 31.)

The Viva Tonal COLUMBIA is the only Gramophone giving even response throughout its entire musical range. -- The Only Scientific Gramophone.

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Are the Best Value To-Day

Junior Model No. 109 - £7
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COLUMBIA GRAFONOLAS AND RECORDS.
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popularity of radio. This last show has been no exception. Yet in another sense it has been a great exception, for this year's advance has been far greater than any previous.

The novelty of broadcasting may be wearing off, but the people are settling down to recognise radio as an essential.

In its splendour this exhibition has surpassed everything of its kind. Exhibitors have made use of every possible device to attract attention. Long before the show was reached silent mystery men, robed as members of a sinister brotherhood, moved among the thronging crowd, calling attention to a certain mystery stall. Attractive girls, attired in characteristic costumes moved among the crowd, "and," as a publication remarks, "young men and old men are radio enthusiasts, and young men and old men will turn their heads to see—" (the name of a popular valve). Mechanical men, almost Robots, attracted attention; in fact, it was almost impossible to carry out a systematic survey, so numerous were the dazzling exhibits with their undeniable attraction.

General Tendencies.

IN a previous article moving coil speakers, pentodes and screen grid valves were mentioned. These were the prominent features, the big features that are to distinguish this year from last year.

The reduction of the royalties has no doubt meant the lifting of a repressing hand and everywhere the greatest incentive has been given for the small set owner to increase the size of his set and bring in some of the delightful programmes from overseas.

Constructors.

GREAT incentive has been given to constructors. At one time to construct a set one had to have some technical knowledge, plenty of time and patience, as well as have a good supply of tools.

In this year's models even the blue print is done away with. An illustrated booklet takes any constructor

through the intricacies or should it be said, simplicities of assembling a shield grid set in a handsome cabinet. Every piece of wire is shown cut to length in one particular diagram.

Television apparatus procurable for £180 and a Fultograph receiver were on view. This is the first year of their introduction, and it promises to be a record year, especially for the Fultograph. Television is to follow.

The British Broadcasting Corporation had a fine exhibit to which they charged twopence admission, the proceeds being in aid of charity. It depicted the evolution of music, commencing with a tableau of early man sitting listening to a bubbling brook, and to the song of a bird. The final tableau represented the modern home. It is said that it took an hour to inspect the exhibit—half an hour of waiting in a long queue, the remainder examining the exhibit.

HORN type speakers were conspicuous by their absence, the tide of public opinion having swung to the moving coil and cone type, which tend to accentuate the bass notes. Horn types when present were represented by the famous exponential type—those with a long tapering column.

The stalls where mains units were displayed were very popular, as were the all-electric sets. The general trend for those who are in the position is to substitute batteries by eliminators. These are becoming cheaper and more efficient. In fact, the keynote of the whole exhibition was simplicity with cheapness, though by no means at the expense of quality.

"Popular Wireless," an enterprising English technical journal, had a large stand on which it displayed models described through the magazine, and their technical staff was in attendance to help amateurs to solve their difficulties. Some people had travelled hundreds of miles "Just to see 'Popular Wireless' itself."

For DX Men.

WHILE the majority of the manufacturers sought to cater for the family who wanted reliable entertainment, yet the DX man was not for-

gotten. He had been provided for by a series of new models of components, ball-bearing condensers, accurate vernier dials, carefully made grid leaks and resistance. High-resistance potentiometers ranging from .5 to 5 megohms tend to replace rheostats. Numerous kits by reliable makers were on view. These contain every part necessary for the making of a sensitive and selective apparatus, and the instructions that accompany them are so clear that it is almost impossible to go wrong.

The exhibition has created great interest the world over and promises to usher in the greatest radio year the world has yet known.

Weather Forecasting

(Continued from page 5.)

Everyone, to a greater or less extent, is interested in the weather, and although most people may not have the time or the desire to acquire a sufficient knowledge of meteorology to enable them to apply it to their own use, there are others, such as farmers and those connected with shipping to whom the subject is especially important. It is essential, therefore, for them to acquire a general knowledge of weather science which will help them to make intelligent use of such information as the Meteorological Office, from its widespread organisation, can supply, and which it is anxious that they should have.

The Weather Report

NUMBERS of backblock farmers in remote districts have radio, and those who have not, eagerly go to those who have, for news from the city "Rain-maker." A retired Australian signaller two years ago installed a set in his son's place up country, and now every "cocky" for miles round has a set. To a man like that, 9.0 p.m. means something more important than bed time. It is then that the weather man has his say. Sometimes the forecast has its grimly humorous side, for on one occasion the young farmer referred to got news of the early approach of rain. Though tired after a long day's work, he turned out with his brother, and with head lights on two tractors, worked all through the night, sowing. And the rain did not come! The weather reports provided through the services of broadcast stations are of inestimable value to the man on the land. In the city, what the clerk of the weather says simply indicates what milady shall wear; but in the country it prophesies whether there shall be the wherewithal to buy the frock, or not.

COMMANDER Richard E. Byrd, leader of the Byrd Antarctic expedition, will be the first explorer to equip his exploration parties with portable short-wave radio sets.

Reserved Seats by Train.

Further Travel Facilities

Seats on the principal passenger and express trains can be reserved between any two stopping stations, irrespective of distance.

Passengers by the Auckland-Wellington "Limited" express trains may reserve available seats between Auckland and Frankton, and Wellington and Palmerston North or vice versa.

For full particulars inquire at any Railway Booking Office.

No other Set can possibly equal the results so simply achieved on a "Courier 4"

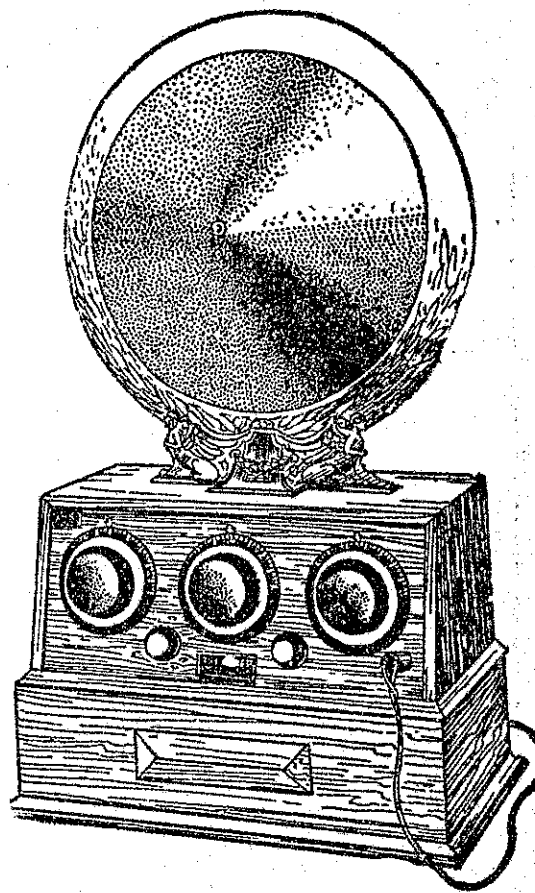
The "Courier 4" is the only set of its kind sold in New Zealand—another has not been built that is so simple to operate. Broadcast wave-length reception can be changed to low-wave length by just the mere flick of a switch—no complicated apparatus to confuse the novice or the expert; and plug-in coils eliminated, two outstanding features that make the "Courier" as easy to operate as a gramophone.

The complete equipment with every "Courier 4" includes Accumulator A, dry B and C Batteries, Phones, Aerial, Valves and 15in. Orphean Speaker.

If you can't get the "Courier" from your dealer—write to us, and we will see that you are supplied.

Wholesale only from—

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With Complete Equipment the "Courier 4" sells for £27-10-0

The **"Courier"**
"Brings tidings from afar"

Auckland Notes

(By "Listener.")

TO say that radio listeners in Auckland are indignant at the demands made by the Auckland City Council for the privilege of broadcasting the Municipal Band, is to put the case quite mildly. At first certain programmes by this band were broadcast by 1YA without any demand being made by the council for payment. The broadcasting did more to popularise Auckland's fine combination of instrumentalists than many a municipal concert would have done. Later the privilege of broadcasting both band and organ recitals was accorded to the Broadcasting Company for £300 a year, an excellent addition to the receipts for municipal music. Now, we are told in the daily Press, the Council demands £750 per annum

for the right to broadcast such a limited number of performances that the sum works out at over £20 per concert. Sydney stations paid only twice this amount for the privilege of broadcasting the most expensive opera company that had ever been brought to Australia. The demand seems exorbitant. And there is another aspect to the case which the council, seemingly, has not seen, or will not see. The band is maintained out of the public rates, for it is far from self-supporting, and is not hired out for any functions. Why should some ratepayers—those who possess radio sets—be called upon to pay twice towards the support of a municipal organisation? Already they make their annual contribution, yet again, from their contributions to broadcasting, an astounding figure is demanded of them. And the main object of a municipal band should be an educative one! By the demands they have made the City Council is absolute-

ly blocking this objective. As far as listeners are concerned there will be much yet to say concerning the attitude of the council.

Zealand teams, which were played on the Stanley Street courts. The accounts of the contests were well-handled by Mr. Hutter.

1YA achieved another triumph in speed on Tuesday, when listeners throughout the province were enabled to follow the Melbourne Cup as it was run, and to know the result as soon as did the spectators on the course at Flemington. Through 2ME, Sydney, the account was picked up on a locally-manufactured set at the house of Mr. J. L. Davies, and thence was sent by land-line to 1YA. Though there was some interference, the account was distinctly audible, and there was no difficulty in hearing the names of the placed horses.

ON Saturday last 1YA gave its attention to tennis, and put out quite an interesting description of the matches between the British and New

Zealand teams, which were played on the Stanley Street courts. The accounts of the contests were well-handled by Mr. Hutter.

1YA "MYSTERY NIGHT"

ITEMS OF CONCERT PROGRAMME

Following is the concert programme of the second 1YA mystery programme, the winner of which was Margaret Robertson, 124 Selwyn Street, Onehunga.

Item
No.

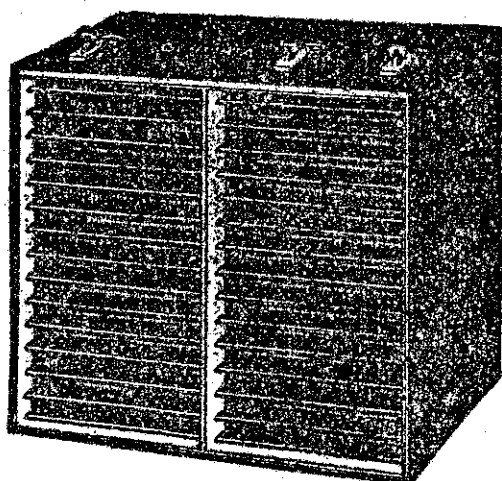
1. Selection by Arthur Pryor's Band—"Lights Out" (McCoy).
2. Selection sung by Alan Prior and Chorus—"Serenade" ("Student Prince"—Romberg).
3. Tenor solo, sung by Gene Austin—"Girl of My Dreams" (Clapps).
4. Hawaiian number played by Kane's Hawaiians—"Hilo March."
5. Vocal duet, sung by Gigli (tenor) and De Luca (baritone)—"Solenne in Quest 'Ora"—La Forza del Destino (Verdi).
6. Violin solo, played by Heifetz—"Rondo" (Schubert).
7. Soprano solo, sung by Evelyn Scotney—"Blue Danube Waltz" (Strauss).
8. Foxtrot, played by Jack Hylton and his orchestra "Souvenirs" (Nicholls).
9. Vocal selection, sung by the Light Opera Co.—"Hit the Deck" (Youmans).
10. Instrumental selection, played by Paul Whiteman and his orchestra—"La Golondrina."
11. Selection, sung by the Don Cossacks Choir—"Monotonously Rings the Little Bell" (folk song).
12. Instrumental item, played by the Philadelphia Symphony Orchestra—"Dance of the Sugar Plum Fairy" and "Russian Dance" (Tchaikowsky) (Nutcracker Suite).
13. Whispering tenor solo, by Maurice Gunsby—"Lay My Head Beneath a Rose" (Falkenstein).
14. Instrumental selection, played by the International Orchestra—"Sweetheart" (Strauss).
15. Soprano solo, sung by Alma Gluck—"Carry Me Back to Old Virginny" (Bland).
16. Instrumental waltz, played by the International Concert Orchestra—"My Treasure" (Becucci).
17. Baritone solo, sung by Titta Ruffe—Prologue, "Pagliacci" (Leoncavallo).
18. A saxophone solo, played by Rudy Wiedoeft—"Sax-O-Trix" (Wiedoeft).
19. Tenor solo, sung by Caruso—"Vesti la Giubba" (Pagliacci) (Leoncavallo).
20. Selection, sung by mixed chorus with orchestral accompaniment. This selection includes a medley of Scottish songs and listeners were required to guess as many as possible of the various numbers figuring in the selection: "Songs of Scotland," "Scots Wha Hae," "Blue Bells of Scotland," "Loch Lomond," "Coming Thro' the Rye," "Here's Health to Bonnie Scotland," "Annie Laurie," "The Campbells are Coming," "Will Ye No Come Back Again," "Auld Lang Syne."

Marconi and Osram Valves

IN our issue of October 19 there was reprinted from an Australian journal a paragraph to the effect that the Marconi type screened grid valve was to undergo a change. We are informed that this is incorrect. The success of this valve has been so marked and the demand so great that there is no immediate possibility of this type of valve being discontinued.

The same position obtains in respect of the Osram screened grid valve. No change is contemplated.

THE local Prefecture of Police, in Budapest has decided to instal at headquarters, transmitting and receiving apparatus for dealing with criminal's photographs by wire and wireless. Smaller sets are to be provided for the smaller district stations.



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Battery in the World

—The Columbia Layerbilt

NEVER before has it been possible to utilize every cubic inch of battery to produce power. The new Columbia Layerbilt "B" Battery has accomplished this.

Made of flat layers of current-producing material instead of the usual round cells, not a cubic inch of space is wasted. You get more battery for your money, far more energy, greater clarity, volume and distance from your receiving set. There is not another battery like the Columbia Layerbilt—Insist upon it.

Columbia
RADIO BATTERIES

GREATEST CLARITY—
VOLUME—DISTANCE

Factory Representatives
ELLIS & COMPANY, LTD.
Chancery Chambers, O'Connell St.
Auckland

Queries.

QUESTIONS asked on specific questions, and those for which a reply is expected, must be accompanied by a stamped and addressed envelope. Questions asking our opinion on manufacturers' products cannot be answered, except by following the general lines recommended by the manufacturers themselves. These can usually be obtained from the literature published by them. Only general recommendations can be made by us. What is wanted is short interesting questions and experiences that may be of value to anyone. These are welcomed and, where possible, made use of in the "Corner."

F.P. (North Auckland) asks whether certain valves should be used in certain places, but does not send stamped envelope. This cannot be discussed through these columns. Manufacturers' recommendations regarding valves should be followed.

Disconnecting B Battery.

F.P. (North Auckland) makes one query which, however, is suitable for publication: "To disconnect B battery so as to relieve strain on valves, would the disconnecting of one terminal do or should the batteries be wholly disconnected?"

If B batteries are to be disconnected and there is no real reason why they should be: for on turning out the rheostat or filament switch the B is automatically cut off, the removal of the positive lead would be sufficient. A switch put in this lead would avert the danger of making a wrong connection when replacing.

Grid Bias.

"SONORA" (Lower Hutt) writes "Wishing to change over to different valves, I find they require varying amount of grid bias; how can I supply this?"

The specific valves have been given, but the general aspect only will be considered.

The power valve requires 17 volts—that is the maximum, the R.F. require 2 volts, that is the minimum. The problem is to give to each valve the correct bias. Almost every receiver has this problem. There is one solution only that is worth while. Connect all the grid bias batteries in series, so as to get at least 17 volts. Take different negative tappings to grid bias of audio transformers of valves in question. Grid bias is applied to the R.F. valve by inserting the battery between the aerial coil and the filament negative. The detector is left unbiased.

Battery Charging.

"ALSO how long would an A battery charger, charging a 6-volt accumulator at 2 amps. run on a unit of electricity, and would the above charger be as economical as, say, a $\frac{1}{2}$ amp. trickle charger?"

This depends on the type of charger. Tungar type would require approximately 27 hours per unit. The relative efficiencies cannot be compared unless the principle of rectification of each is known.

Earthing of Eliminators.

"FINALLY, my set is earthed to a length of galvanised iron pipe driven 8 feet into clayey soil and connected by means of a brass lug and set screw sweated to pipe. The eliminator is earthed similarly and the two

pipes are about a yard apart. Is this arrangement too close to ensure an efficient earth for the receiver or would further spacing prove beneficial?"

This is quite O.K. and those using eliminators should bear this in mind, particularly as the Underwriters' rules require eliminators to be earthed.

Power Valves.

THE advent of power and super-power valves is not without trouble especially to the battery user and a word of warning may forestall a great deal of trouble.

Such a valve should not be used unless adequate means are provided to supply the necessary current. To obtain good results high voltage is necessary on the plate, as well as a large amount of current to the filament.

A dry battery with a discharge rate of ten milliamperes for example, will not give satisfactory service with a set consuming thirty milliamperes.

As a battery ages, it is liable (owing to the increase of its internal resistance) to give rise to howling in the set, and to distorted reproduction. Above all do not connect an old battery in series with a new one.

Under these circumstances it is better where batteries only are available to use a moderate power valve.

When Making Adjustments.

WHEN adjusting the C battery tapping on an amplifier using a power valve the filament current should always be disconnected. The sudden surge of anode current when the C battery is disconnected may cause damage to the extremely fine wire in the speaker.

Eliminator Hum.

WHEN a multi-valve receiver is connected to a battery eliminator deriving its supply from the A.C. mains, a constant hum, which is annoying during a lull in the programme, is too often noticed. In the smoothing system of the eliminator one or two chokes are utilised, which are only designed to pass a certain current in milliamperes. If this current is exceeded the iron cores becomes mag-

netically saturated and it no longer acts as a choke to smooth the ripples in the D.C. supply from the rectifying valve. The only cure for this trouble is to use a larger eliminator or reduce the total plate current consumption of the receiver. When a negative grid potential is applied to the grid of an amplifying valve, a drop is noticed in the filament to plate current. Under working conditions bias can be applied until the valve is working on the centre of the curve of the straight portion of the curve, supplied by the makers, and in many commercial receivers insufficient bias is allowed for when working from an eliminator.

It is well known that when more current is drawn from the eliminator

the voltage drops also. The less current drawn, the higher the voltage.

So that if more bias is given to the receiver the voltage applied to the plates of the various valves is also increased, therefore giving the valve a longer straight portion of its characteristic curve and adapting itself automatically to the extra bias supplied. The main point is that less milliamperes current is drawn from the eliminator and it is amperage, not voltage, that overloads any transformer or choke.

A milliammeter placed in the negative B battery lead will show the total consumption of the set, and on referring to the graph, which the manufacturers of the eliminator supply, it can easily be seen the voltage that is being applied to the amplifier valves.

It is stated that with short-wave sets reaction gives better results when fed into the grid circuit from the end to which the aerial lead is also connected. Failure for a short-wave receiver to oscillate is often caused by damping introduced into the grid circuits by having the aerial coil too tightly coupled to the grid or secondary coil.

Distortion.

WITH many receivers distortion is a feature. In most cases, but not all, distortion can be attributed to the set. If, however, distortion is noticeable on one particular station, it may be assumed the station is at fault, but it is wise in this respect to compare notes with other listeners.

There is a rather grievous case resulting from station distortion to be told of three new arrivals to the radio world. A short time back a station was making certain adjustments resulting at times in indifferent transmission. Three people, reports one dealer, purchased small sets and, on hearing the transmission, returned the sets and are seeking to have the license money refunded. This certainly is a little hasty and unfair. Adjustments must be made periodically and, as they extend over only a short period, listeners should at least be indulgent.

TELEVISION

We have all the parts necessary to make up Television Equipment.

Selenium Cells, 27/6.

Special Mirrors, 12/6.

Two Specially Prepared Aluminium Discs, 31/-.

Screens, 1/3.

"Television" Magazines, 9d.

We are the pioneers in Television experiments in New Zealand, and can assure those contemplating doing likewise that it is a field for very interesting work.

HARTLE and GRAY

CUSTOMS STREET, WEST, AUCKLAND.

THE FIRM FOR ALL THE LATEST GOODS.

THE WOMAN'S POINT OF VIEW

By "VERITY"

New Zealand Made Colour in the Home. The Wireless Pedlar

A Picture Play

A Green Interior.

(By Elizabeth Ashley.)

MISS DALE AUSTEN, the Dominion's prettiest girl by virtue of vote and acclamation in recent beauty contest, takes pride of place in "The Bush Cinderella," which is a creditable production, holding interest throughout. The story is a romantic one, with moments of excitement; the characters well cast, with one or two exceptions, the action taking place amid picturesqueness of bush track and forest, and homeliness and hardship of life in the backblocks well and truly depicted. The charming prologue, showing a lover of two decades ago who kisses and rides away to be sniped in the veldt by a bullet in the Boer War, shows Miss Austen to greater advantage than the later scenes. In these, however, she acts quite naturally and looks attractive enough to justify an officer from a warship, trout-fishing in the solitudes, to lose his heart. The young naval man is extremely well done by an actor who looks the part, possessing a good figure and handsome head, with a distinction refreshing to an eye grown accustomed to the more ordinary type usually seen on American films.

ONLY a few years ago it was quite usual to be dogmatic in using colour for the decoration of rooms.

Recent years have seen much research and many experiments dealing with the question of the psychological effects which the use and abuse of colour can produce, and a consequent increase of interest in its other attributes as well.

Great artists have known many of these things for centuries; but it has taken this recent research to bring them home to the general public.

Let us see what has been learnt of the properties of different colours, in so far as they affect the interior decoration of our houses.

Green is obviously the best colour to begin with, because green plays a more prominent and varying part in Nature than any other. Green appears in the sea and in the sky; in the fields and in the woods, on rocks and on roofs of houses where there is moss; on bleak uplands and in lush lowlands. It appears also in innumerable shades, from the cold, mysterious green which is almost blue, to the warm bright green which is almost yellow.

Texture, quantity and position are the three most important things to remember when using this colour for interior decoration. Texture, because few, if any of the other colours are so much affected by the surface on which they appear. Green walls, which may be gorgeous in paint, will be disappointing in distemper; green curtains, which would be delicate and exquisite in silk or in glazed chintz, would be dismal and even tawdry in a cotton or woollen material.

The extent to which green may be used in any one room depends first upon where it is to go; secondly, upon the shade which is used; and, thirdly, upon what is going with it.

Green walls are very often successful. They give an impression of spaciousness and a feeling of freedom, and they make one of the most becoming backgrounds possible to people, to most kinds of furniture, and to flowers. But green nearly always needs a certain amount of support, and for this reason it is best to make the lower part of the walls, or the skirting darker than the upper part, and if one uses a green carpet at all, it should have a very wide surround of black, or possibly very deep blue or violet.

Greens. What shade of green to choose for a particular room will depend partly upon the size of the room, partly upon its aspect. A rich yellow green tends to make a room look smaller than it is and very warm. A blue green has the reverse effect, except when it is very deep. Then it is apt to be overpowering and depressing.

Come, lads and lasses, who will buy
An aerial that climbs the sky
Like silver thread against the blue?
Condensers and transformers,
too?

I have a very special line
Of filaments so gauzy fine,
And see! within my basket hid
This exquisitely-fashioned grid!
You lasses—those of you who
cook—

At pancake coils will like to look,
And all you lads will flock to see
My extra special battery.

I've 'phones to fit a dainty ear,
Loudspeakers, also, crystal-clear;
My amplifiers always please;
There are no better chokes than
these.

So come, my gentles, you will find
These valves exactly to your mind.
An' you would harness music's
spell—
Make it your own? Then I
foretell

My wares your needs will satisfy—
A wireless set! Who'll buy?
Who'll buy?

—Leslie M. Oyler, in "Radio Times."

Beating Their Brothers.

GIRLS of 1928 are real "live wires." The latest proof of this is that before long there will probably be electrical power stations in many parts of England staffed and managed by women.

Already many girls in boiler suits and breeches who know more about sparking plugs and magnetos than do their brothers, are being apprenticed with these careers in view.

The Women's Engineering Society has over 200 women with engineering experience, university degrees in engineering, or other high qualifications. The women co-operate with the men, and insist on maintaining the high engineering standard of men.

As far as furniture is concerned, mahogany and walnut are both wonderful with green, and so, in most cases, is dark oak. The lighter woods are not so successful, because of the need for support already mentioned, and if red lacquer is to be used in a green-walled room, the tone chosen for the walls must be very faint and delicate. This is because red always tends to make green look crude and hard.



The Slim Silhouette

Eve Re-assured

SWEETS to the sweet! Here is good news for all chocolate-loving daughters of Eve. The ardent seekers of the Slim Silhouette need not regard the innocent chocolate as an arch enemy—in fact, "chocs." are proved to be good for the slim silhouette. At the Bakers' Exhibition, at the Agricultural Hall, London, one of the judges of confectionery was most reassuring. "Tell the women of Britain," he said, "that they may eat chocolates without any danger or fear of obesity."

"Women regard chocolates with the same fear as a healthy beer drinker regards Vichy water. We want to tell the women of Britain that they may eat chocolates and remain slim. The ingredients used in chocolates nowadays do not make for fatness."



Nobody listens nowadays, but everybody looks. Say it with a Kodak snapshot. It speaks so much more clearly than words.

Kodaks from 30/- Brownies from 10/6. Catalogue Free.

Wherever you go—go with a KODAK

OF ALL KODAK DEALERS.

His First School.

GREAT was the excitement within our small home. Morning tea was terrifyingly early, small hands and teeth were cleaned, small pants and awe-inspiring tie adjusted, "parting" most correctly arranged, breakfast gong most promptly obeyed—all with a strange sense of quiet, as of great things about to happen.

The walk along the road, too, was accompanied obviously by the silence of great thoughts. And so we approach the Gates of the Future. A little warm hand quickly withdrawn from mine, a jerking back of the shoulders, sudden lifting of manly head—and Peter, aged five (only last Wednesday the fateful birthday) passed out of babyhood into boyhood, through the gates, along the path and into the midst of a jolly chattering throng of reunited and welcoming elders.

There was no backward glance, no last loving embrace as always before—and I, his mother, had perforce to turn away, a little sadder, immeasurably prouder, perhaps wondering just for a moment or two whether the gain was quite as big as the loss—doubts answered immediately by the remembrance of two bright, eager eyes, hopeful and smiling, passing from one new jolly face to another; and by the realisation that though from to-day onwards he will never again be completely mine, yet I have on this historic morning sent out into the world, as well prepared as care and modern thought and patient study have permitted, the makings of a potential Gentleman of England.—M.D.

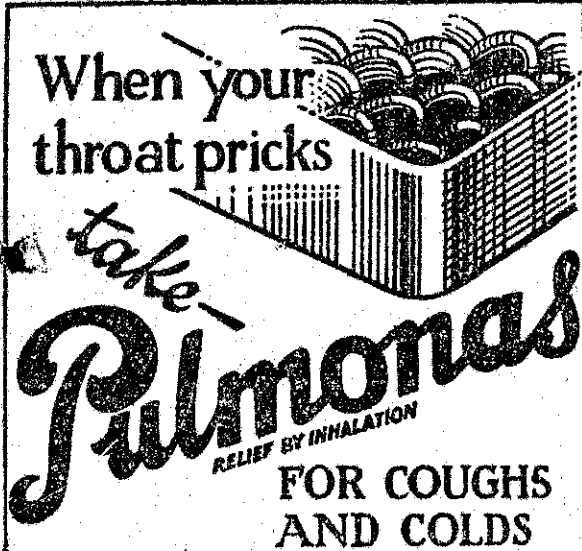
Art By Wireless.

ART by wireless is the latest educational novelty in England, and one likely to delight the youngsters, who hitherto have spent many weary hours at a drawing board tracing out curves of fern and plant-pot.

The B.B.C. recently broadcast for schools the first of a series of lessons on "Looking at Pictures," by Miss Berry, of the Arts League of Service. A magnificent pamphlet with 47 illustrations of painting and sculpture, ranging from prehistoric to modern works, is being issued for 1d.

With this pamphlet the child can appreciate the drawings as the teacher describes them over the wireless.

A splendid examination questionnaire is in the pamphlet; this enables the child to express its opinion on what it has heard and support it by drawings.



When your throat pricks
take—
Pulmonas
RELIEF BY INHALATION
FOR COUGHS
AND COLDS

*Annotations of Annabel**DEAREST:*

The hour approaches, boards are up and microphone in place, the die will be cast on the morn's morn; so that even the most apathetic, the newest visitor to our shores, is galvanised to fleeting interest in fortunes of war that, on the day of fate, will leave New Zealand firmly fixed on the path of progression or retrogression, just as one looks at it. Meantime, each to his taste, we plume ourselves on the chances of our chosen, our pet protagonist, our fancy man; who, poor thankful soul, if his star be kind, quite soon will reach "port after stormy seas," and, basking in sunshine of success, blithely carol "Peace, lovely peace!"

NO partisan of parties, yet are my sympathies with Miss Ellen Melville, of the Northern City, in her gallant and persistent struggle towards the light that will beat upon a woman representative in the Parliament of New Zealand. In passing, also, I record regret that the Independent Labour candidate for Wellington Central was heckled and harried in her endeavour to address recent meetings. Greatly it goes against inbred instinct for fair play in all contests, be they politics or prize fights, that a woman should be subjected to treatment of an essentially non-Quixotic character, and refused decent hearing through outrageous interruptions from hooligan members of the party she is out to represent.

ALSO we come to the Great Question, "To beer or not to beer!" causing rank and file doubtfully to wriggle under fulmination from soap-box and pulpit, pamphleteer and special pleader. Well-meaning fanatics instruct and exhort to the path of penitence, the way of all flesh. Myself, I confess to penchant for old, trite slogan of "Britons never will be slaves," and after obstinate fashion of my race, prefer to pick out my own tow-line with which to yank myself to social salvation or disaster. Well,

the numbers will soon be up; and at this last minute we are all very wide-awake and sturdily cognisant that on election day England expects every man to insist on doing his duty. This, of course, embracing Everywoman, who, enthusiastic at this particular juncture, needs no reminder of that little journey to the poll.

AN attractive town is Dunedin, its hills and vales of arresting beauty. And sometimes, in a go-getting age, capable of a generosity of the spirit, as well as in material things, exemplified in the camaraderie and kindness of a recent incident. During financially straitened period of civic service, it being necessary temporarily to retrench among tramway officials, some of the employees voluntarily forfeited positions in favour of married brethren; although to the working man, who seldom has financial resources beyond the weekly "screw," its relinquishment spells, if not disaster, at least considerable sacrifice of self. To such unostentatious followers of the doctrine of the Sermon on the Mount we accord vicarious and shamefaced applause, pondering doubtfully on capacity to emulate that high standard of kindness.

ONE beauty of the spirit, another of physical things. Wind-swept sky at sunset across Plimmerton waters; rain-bespattered streets through which we drive with the friend of our heart, very aware of washed vistas and elusive reflections that call mystery from menacing shadows; morning light on a gorse-begemmed hill of hope; sweep of great gulls as they circle around wharves and ships; loveliness of a woman's head, perchance that of Miss Margaret Bannerman, reared upon slender neck, the length and grace of which adds a distinction which it may be is the most entrancing note in the gamut of feminine charm.

Your

ANNABEL LEE.

A Lyric

Bright day succeedeth unto day,
Night to pensive night,
With his towering ray
Of all fathering light.
With the solemn trance
Of her starry dance.

Nought is new or strange
In the eternal change.

As the light clouds fly
O'er the tree-tops high,
So the days go by.

Ripples that arrive
By the sunny shore
Dying to their live
Music evermore,
Like pearls on a thread,
Like notes of a song,
Like the measured tread
Of a dancing throng.

—Robert Bridges.

*Books.**MANY LATITUDES.*

(E. Tennyson Jesse.)

AN excess of versatility is to be credited to Miss Tennyson Jesse. Once more this accomplished writer has given evidence of her literary gift, insight into the manners and morals of other countries than her own, and deep charity and comprehension of all sorts and conditions of the people of the globe.

Coming of cultivated and artistic stock, one is not surprised to find the writer at home in a diversity of style and story. She writes of ships as if she were a sailor, of slums as though a dweller therein; and gives a memorable and cameo-like portrait of the sacrificial love of a Hindu mother for her child in the leper settlement of an Eastern State. "Greater Love," of which this is the theme, is perhaps the finest, and certainly the most haunting, of the half-dozen tales collected in this latest collection of the author's art.

In the long short-story that gives its name to the book, "Many Latitudes," there is authentic atmosphere of a ship upon the waters, in this case surrounded by atmosphere of mystery and adventure of piracy and sophisticated fraud. We come across excellent drawing of strange types, interest being enthralled by the strange and bearded captain, with his lovely, fickle wife, the Helen who alone in the world is loved by the hard and crafty seaman, and who is unfaithful to him without a qualm.

In "Baker's Fury," that sombre tale, a girl of the soil, uneducated, unfriended, silent, and dour, in religious hysteria sacrifices to her gloomy Jehovah, the dearly loved and tended Christopher John, ending his merry, rollicking life of six years in a mood of passionate abasement. Not a pleasant story, but bearing the stamp of emotional reality.

In "The Love Letters" interest veers to Russia of the Revolution, and we have a short and tragic tale of violence and shattering destruction of whatsoever things are good and lovely in that great and sorrowful country; the personal note introduced by the finding of hidden love letters and a wife's implacable jealousy.

A panorama of nations and countries, presented with this author's proved sympathy, restraint and knowledge.—R.U.R.

Brown Apples

PEEL, core and slice four or five large apples, put them in a pie-dish and cover with brown sugar. Mix four tablespoons of wholemeal with a breakfast cup of cream, stir well, and add a couple of well-beaten eggs. Pour this over the apples, and bake slowly for half-an-hour. Sprinkle with powdered cinnamon.

Tonking's Linseed Emulsion
is a Certain Cure for Coughs and Colds

Features of Next Week's Programmes

IYA Notes

EXCERPTS from "The Maid of the Mountains," whose melodies are so well known and so popular, will be sung at IYA on Tuesday evening. The vocalists will be Miss Vancye Hanna, Miss Marjorie Fair, Mr. Len Keren, and Mr. Leo O'Malley. The supporting programme by the same vocalists will also be of great merit. "Father O'Flynn," "Grey Days," "Two Grenadiers," and "My Dearest Heart" being the solos.

MR. A. B. CHAPPELL'S next talk on the Maori will concern his legendary lore.

Wednesday is the night of the big competition at IYA.

THURSDAY'S programme will be of the popular type. The Lyric Quartet, a splendid combination of male voices, will share with the Griffiths Duo, the Asquiths, Miss Ina Bosworth, and the Auckland Trio the honours of the evening. Mr. Alan McElwain can be looked to for much humour.

THE orchestra will present a very fine programme on Friday evening. One of the numbers will be Woodford-Finden's "Four Indian Love Lyrics."

Phenomenal Success

The tremendous demand for Siemens' Super-Radio Batteries is proof conclusive that Radio Listeners everywhere are quickly learning the many advantages of this better battery.

If you would enjoy perfect reception, place your order now.



SIEMENS

SUPER RADIO HT DRY BATTERY

Specially designed for High Power Receiving Sets. Extra large capacity unit cells.

36 cells—50 volts (nominal).

Price 31/6

Weight, 20 lbs.

N.Z. Agents:

CORY-WRIGHT AND SALMON, Engineers, Wellington and Auckland.

Schubert Centenary

Fine Programme for 2YA and 3YA

FOLLOWING on the splendid Schubert Centenary programmes arranged by IYA and 4YA, 2YA and 3YA will present their Schubert Evenings next week.

2YA's concert will be given on Monday evening. A real treat is in store for listeners. Mr. John Prouse, who has broadcast such pleasure from 2YA of late, will sing four of Schubert's great compositions, "The Wanderer," "The Linden Tree," "Courage" and "The Erl King." Miss Nora Gray and Miss Hilda Chudley will be heard in some of the great melodist's prettiest songs. Mr. Roy Hill's tenor voice will delight in "Impatience," "Hark, Hark the Lark," "Serenade" and "Who is Sylvia?" The instrumental side of 2YA's programme will be exceptionally good. In addition to selections from the Studio Orchestra there will be a pianoforte solo by Mr. Gordon Short and an instrumental quintette.

Not the least interesting portion of the programme will be a lecture on Schubert to be given by Mr. Robert Parker.

AT 3YA a concert of great excellence has been arranged. A lecture on the life and work of the great composer will be given by Mr. T. Vernon Griffiths, M.A., Mus.Bac. The singers will be Miss Lilian Hanham (soprano), Miss Dulcie Mitchell, Mr. Harold Prescott and Mr. Fred C. Penfold. The instrumentalists will be Miss Dorothy Davies (pianoforte), and the Studio Trio.

At the 3YA Children's Session the pupils of St. Mary's Convent will give a programme in honour of Schubert's Centenary.

Another instrumental combination which will appear this evening will be the Auckland Concertina Band, from whom much interesting entertainment may be expected. The vocalists of the evening will be the Clarion Glee Singers. Quartets and duets are a feature of their programme, but solos will be sung by Mr. Duncan Black and by Mr. James Simpson.

Two humorous elocutionary numbers will be given on Friday evening by Mr. J. F. Montague. One is an original sketch, "While I Think of It," and the other is a sketch by Dickens, concerning "Sairey Gamp."

MISS CHRISTINA ORMISTON and Mr. Barry Coney are singing on Saturday evening, their songs comprising solos and duets. There will be an excellent miscellaneous programme.

Features at 2YA

Monday's programme will open with the well-known "Rosamund" overture, played by the orchestra, followed by soprano solos by Miss Nora Gray "Acknowledgement to the Brook," and "The Inquirer," following these will be a movement from the famous "Forellen" or "Trout Quintette" played by Miss Ara Symons, Miss Lilla Hill, Messrs. G. Ellwood, F. Huggins, and Gordon Short.

The famous and ever-popular "The Wanderer," and "The Linden Tree" will be Mr. John Prouse's contribution to this half of the programme. The 1st Movement of the sparkling trio in B Flat will also be a feature of the programme. In passing, it might be of interest to listeners to know, that an excerpt of this work was played by the Symons-Ellwood-Short Trio on the opening night of 2YA.

Miss Hilda Chudley in the first half of the programme is contributing two beautiful songs, "The Litany" and "Cradle Song." The "Impromptu in

B Flat" is a number that gives a pianist ample scope to show his interpretative powers, and in Mr. Gordon Short's hands listeners will be treated to a finished performance of this great work.

Mr. Roy Hill, a young tenor of promise and one whose voice is specially suited to this class of work, will sing "Impatience," and "Hark, Hark the Lark," in the first half of the programme.

As a closing number to the first section of the programme, the orchestra will play the "Unfinished Symphony," a work which is a great favourite with the recording companies, bands and orchestras alike.

At 9.12 approx. Mr. Robert Parker, who recently celebrated his jubilee, will give a talk on "Schubert." It is doubtful if a better authority on the composer referred to could be found in New Zealand. Mr. Parker besides being a musician of culture, and experience, is almost as well known as a lecturer and his talk should be both interesting and informative.

IN the second half of the programme Miss Nora Gray will sing a bracket of two numbers: "In the Wood" and "On the Lake." Miss Gray's voice combined with her artistic rendering of these songs will ensure listeners a musical treat.

The 2nd Movement of the "Death and the Maiden Quartet," will follow on after Miss Gray's items. The quartet, which is for 1st and 2nd violins, viola and cello, is based on Schubert's well-known song "Death and the Maiden."

"The Erl King," a favourite with artists and public alike, bracketed together with "Courage," will be sung by Mr. John Prouse.

To balance the programme, two further numbers from "Rosamunde" will be played by the orchestra, these will be "Entracte" and the "Ballet Music."

Miss Hilda Chudley, for her second appearance on the programme, has chosen "The Trout," which will be sung with her usual artistry.

Mr. Roy Hill's choice in the latter half of the programme, will be two favourites. Tenor solos "Serenade" and "Who Is Sylvia," the words of the latter song are by Shakespeare.

The programme will conclude with the stirring strains of the popular "Marche Militaire."

THE items to be presented by the 1st. Battalion Wellington Regimental Band on Thursday, comprise popular items, ranging from Rachmaninoff's Prelude, down to stirring marches. The opening items will be the well-known march "The North Star," followed by a descriptive piece, entitled a "Rural Wedding." In this piece one of the instruments takes the part of the officiating minister, and when he puts the all important question to the bride, the cornet answers (in a high key) the equivalent to "I will," the question is then put to the bridegroom, and the answer is given by the euphonium, the music then changes into quick time, giving one the impression that the ceremony over, the guests are settling down to enjoy the revels out associates with Rustic Weddings.

The vocal items to be rendered will be by the Lyric Quartet. The quartet numbers will include a four-part arrangement of the old favourite song, "Juanita," Mendelssohn's "Serenade," and two humorous numbers, "Pussy's in the Well" and "Little Tommy." Mr. Chas. Williams (tenor) will be heard in a bracket of two numbers, "In Old Donore" and "Dear Old Ilfracombe," and also in a duet with Mrs. Will Goudie. Mr. W. Binet Brown presents two bass solos, O'Hara's rollicking "Give a Man a Horse" and a number by Carpenter entitled "Nuthin'." Baritone solos by Mr. Will Goudie will be Allitsen's fine song, "The Norseman's Song" and "Arguing Wife," a number in an entirely different mood.

Mr. Johannes Andersen, of the Turnbull Library, an acknowledged authority on "Native Birds," will deliver a short lecture on this interesting subject at 9 p.m. Mr. Andersen's lectures are always followed with the greatest interest.

Amongst the other popular items will be a selection from the ever-popular "Rose Marie," a waltz "Nights of Gladness," the entr'acte, "The Wind," Rachmaninoff's "Prelude," and last but not least the march "Punchinello," by Rimmer.

An item of special interest to former members of the New Zealand Rifle Brigade will be the march "Punjab," the official march of the brigade chosen by the late General Fulton and played in memory of those members who "went West" during the late war.

A new-comer to radio in the person of Miss Thelma Aitken will provide the elocutionary items. Miss Aitken, while a new artist to radio, is well known locally as an artistic elocutionist and a well-known teacher of this art, and her items are bound to find favour with listeners.

FRIDAY is operating night at 2YA, and the artists on this occasion will be the Philharmonic Trio and Mr. S. E. Rodger. A feature of the

programme will be the "Miserere" duet from "Il Trovatore," sung by Mrs. Ellison Porter and Mr. Edwin Dennis.

Mr. S. E. Rodger (baritone) will sing "The Gypsy Song" by Lehar, and the well-known "Cobbler's Song" from "Chu Chin Chow."

Mrs. Ellison Porter has chosen the well-known operatic aria, "One Fine Day," from Puccini's "Madame Butterfly," and "Scenes That Are Brighter," from "Maritana."

The contralto soloist, Miss Madge Freeman, will sing the well-known "Havanera," from Bizet's "Carmen," and a number by Gounod, "Now's the Time to Love."

Two favourite tenor solos will be presented by Mr. Edwin Dennis, "O Vision Entrancing," from "Esmerelda" by Goring Thomas, and "Yes, Let Me Like a Soldier Fall," from "Maritana." Elocutionary items by Madame Eugenie Dennis will be "Viva la France" and a "Mock Tragedy."

CONCERTED items on Saturday night by the Melodie Four will include "Little Tommy Went a-Fishing," the "Old Folks' Medley" and "Riding on the Dream Train." This latter number is repeated by request. A welcome reappearance of Mr. E. A. Sargent in songs at the piano will be made to-night, his items being "A Fine Old English Gentleman" and the popular "Water Scenes." Listeners no doubt have pleasant recollections of Mr. Sargent's previous appearances before the microphone. Mr. Sam Duncan will sing that well-known favourite, "When Other Lips," from "The Bohemian Girl," a favourite comic opera of our grand-parents and one that still retains its old charm. This delightful air will, at Mr. Duncan's hands, receive sympathetic treatment and a pleasing item should be the result.

Mr. W. W. Marshall (bass) will be heard in a composition of a New Zealand composer, "The Jungle," by Hiscock.

Mr. Frank Bryant will entertain with a bracket of two numbers, "Good Morning, Brother Sunshine," and "The Bold Unbiddable Child," by Stanford. These items should prove a suitable vehicle for Mr. Bryant's pleasing tenor voice. Mr. R. S. Allwright will give sage advice to the unmarried in his rendition of the rollicking ballad, "Young Tom o' Devon."

Notes from 3YA

SOME very popular vocalists will be singing on Monday evening. They will be Miss Marjory Miller, Miss Constance Flamank (who has recently been very successful at competitions), Mr. E. A. Dowell, and Mr. Charles Lawrence (entertainer). Particularly bright will be the vocal items this evening, so also will be the instrumental, the Woolston Brass Band being the performers.

To mention the items by the band is to show the quality of the programme: "Ravenswood," Grand March from "La

Reine di Saba," "Lorely," "Sunset on the St. Lawrence," Schubert's "Unfinished Symphony," "The Elephant's Parade," and "Cavalry of the Clouds." There will also be a cornet solo, with band accompaniment.

The Schubert Centenary programme is referred to elsewhere, so also is the big competition, which is to take place on the Thursday evening.

ANOTHER song cycle by Lane Wilson, "Dorothy's Wedding Day," a very pretty set of melodies, will be



MR. A. E. WILSON, ORGANIST.

sung on Friday evening by the Melodious Four. Following the song cycle will be a miscellaneous programme concluding with dance music till 11 o'clock. Two of Mr. T. D. Williams's songs are "The Sweet Shop" and "The Call of the Road," both by Drummond. The old English composer, Roger Quilter, will provide the tenor songs for Mr. Russell Sumner; Miss Frances Hamerton will sing "Nod" and "Ambition"; Miss Belle Renaut's items will be "An Indian Serenade" and "Under the Greenwood Tree."

3YA will feature a radio vaudeville programme on Saturday evening. 3YA vaudevilles are always popular. On this occasion the Avonion Minstrels will be contributing again, included among their items being some of the evergreen plantation melodies. Mr. Frank Olds is singing a song that will revive military memories, "The Old Brigade." Two tenor solos by Mr. Ernest Rogers will be "The Island of Dreams" and "The Garden of Your Heart." Miss Eileen Grennell, the gifted young Maori vocalist, will sing three very popular songs. Miss Elaine Moody's Hawaiian Trio will provide entertainment of the type in which they excel. This evening, too, the Studio Orchestra will be playing, the numbers chosen being of a varied nature.

Features of 4YA

NEXT Sunday's divine service will be relayed from the Methodist Central Mission, when the Rev. William Walker will preach the sermon. Should fine weather prevail, at the close of the service the St. Kilda Band, under Mr. James Dixon, will give a performance at St. Kilda beach, and this will be relayed by 4YA.

A FIRST-CLASS concert will be presented on Tuesday evening. A number of popular items will be played by the St. Kilda Band, among

Seated at his organ in the Auckland Baptist Tabernacle is Mr. A. E. Wilson, who will be heard again on the air from 1YA on Wednesday, December 5. It is now some 15 months since Mr. Wilson was a regular contributor to 1YA programmes, and his reappearance will be welcomed by lovers of organ music.

Joy." Bass solos will be heard from Mr. E. G. Bond, including "Stone-cracker John." Some humorous elocutionary works will be given by Mr. Lester Moller. The Rev. W. B. Scott will continue his series of talks on "Early New Zealand," the third being entitled "Tamate Waka Nene" and "Patuone."

COMMENCING from this week, the vaudeville entertainment which in the past has been broadcast from Dunedin on Wednesday evenings will be transferred to Saturday nights, and a popular ballad concert will take its place. On Wednesday nights, in future, outstanding features will be vocal quartets, the 4YA Harmonists, and a new quartet, the Serenaders, taking alternate Wednesdays.

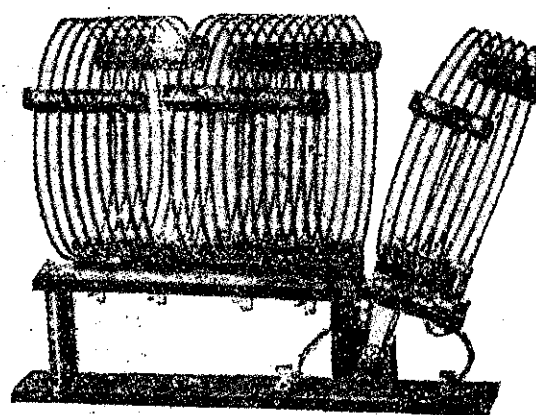
On this programme each week an instrumental trio will be an interesting attraction. The 4YA Broadcasting Trio comprises Miss Eva Judd (violinist), Mr. P. J. Palmer (cellist), and Mrs. Ernest Drake (studio pianiste). Each member of the trio is a leader in his or her particular field in Dunedin: some really fine string trio music is under rehearsal to be presented in the near future.

NEXT Wednesday's programme will be provided by the 4YA Harmonists, in concerted numbers, with solos items by the members, Miss Roma Buss (soprano), Miss Mollie Andrews (mezzo-soprano), Mr. C. C. Scott (tenor), and Mr. F. M. Tuohy (baritone). The 4YA Broadcasting Trio will present a group of Moszkowsky's Spanish Dances, while Miss Eva Judd will render Ernt's "Elegy," Mr. P. J. Palmer, Jensen's "Morning Breezes," and Mrs. Ernest Drake, Mowrey's "Mexican Serenade."

SATURDAY'S programme will be of a bright and lively nature, with popular and humorous songs, humorous sketches enacted by Miss Sheila Neilson, and Mr. J. B. McConnell, and popular instrumental music. Miss Betty Roberts will sing "The World is Waiting for the Sunrise" and "The Girl Friend." Mr. Chris Harlie will sing about the "Irish Orchestra."

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Full Programmes for Next

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Sunday, November 18

1YA, AUCKLAND (333 METRES)—SUNDAY, NOVEMBER 18.

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the announcer.
 4.8: Selected studio items.
 4.30: Close down.
 6.0: Children's session, conducted by Uncle Leo.
 6.55: Relay of service from Pitt Street Methodist Church. Preacher, Rev. Lionel B. Dalby; choirmaster, Mr. W. Leather.
 8.30: Gramophone lecture-recital.
 9.30: God Save the King.

2YA, WELLINGTON (420 METRES)—SUNDAY, NOVEMBER 18.

- 3 p.m.: Afternoon session—Selected studio items.
 4.30: Close down.
 6.0: Children's Sunday service conducted by Uncle Ernest.
 7.0: Relay of evening service of Vivian Street Baptist Church. Preacher, Rev. F. E. Harry. Organist, Mr. Chas. Collins. Choirmaster, Mr. J. R. Samson.
 8.15 (approx.): Studio concert.
 Overture—London Symphony Orchestra, "Coriolan" (Beethoven) (H.M.V. Record D1409).
 Mezzo-contralto solo—Miss Ngaire Coster, "Ave Maria" (Kahn).
 Pianoforte solo—Frederic Lamond, (a) "La Ronde des Latins" (Liszt); (b) "Second Movement, Sonata No. 2, Op. 10, in F Major" (Beethoven), (H.M.V. record D1274).
 Vocal sextet—Galli-Curci, Homer, Gigli, Le Luca, Pinza, and Bada, "Chi Mi Frena" (from "Lucia di Lammermoor" (Donizetti), (H.M.V. record DQ102).
 Violin solo—Tosca Seidel, "Humoresque" (Dvorak), (Columbia record 09506).
 Bass solo—Mr. J. M. Caldwell, (a) "God Is My Shepherd" (Dvorak); (b) "I Will Sing New Songs of Gladness" (Dvorak).
 Orchestral—Columbia Symphony Orchestra, "Spring Song" (Mendelssohn), (Columbia record 01076).
 Tenor solo—Ernest McKinley, (a) "Ka Mate" (Te Rangi Hi Kiroa); (b) "Hine e Hine" (Princess Te Rangi Pai), (Columbia record 01087).
 'Cello solo—Felix Salmond, "Berceuse de Jocelyn" (Godard), (Columbia 03591).
 Vocal duet—Miss Ngaire Coster and Mr. J. M. Caldwell, "Still as the Night" (Bohm).

- Overture—Columbia Symphony Orchestra, "Light Cavalry" (Suppe), (Columbia record 02559).
 Mezzo-contralto solo—Barbara Maurice, "From Out the Long Ago" (Stratton and Dick), (Columbia record 01159).
 Violin solo—Tosca Seidel, "Meditation" (Massenet), (Columbia record 09506).
 Bass solo—Mr. J. M. Caldwell, "Hear Me, Ye Winds and Waves" (Handel).
 Mezzo-contralto solo—Miss Ngaire Coster, "A Spirit Flower" (Tipton).
 Orchestral—Jean Lensen and his Orchestra, "Chanson Bohemienne" (Columbia record 01102).
 Vocal duet—Miss Ngaire Coster and Mr. J. M. Caldwell, "The Pastorale" (Peterkin).
 Band selection—National Military Band, "National Emblem March" (Bagley), (Columbia record 01153).
 Close down.

3YA, CHRISTCHURCH (306 METRES)—SUNDAY, NOVEMBER 18.

- 3 p.m.: Afternoon session—Selected studio items.
 3.15: Organ recital from St. Andrew's Presbyterian Church. Organist, Mr. Robt. Lake.
 3.30: Studio gramophone recital.
 3.45: Organ recital by Mr. Robt. Lake (continued).
 4.0: Studio gramophone recital.
 4.30: Close down.
 5.30: Children's song service conducted by Uncle David.
 7.0: Relay of evening service from St. Andrew's Presbyterian Church (corner Antigua and Tuam Streets). Preacher, Rev. N. L. D. Webster. Choirmaster, Mr. J. Maclean. Organist, Mr. Robt. Lake.
 8.15: (approx.): After-church studio concert.
 Overture—Royal Philharmonic Orchestra, "Flying Dutchman" (Wagner) (Columbia Records L1961/2).
 8.27: Tenor recitative and aria—Mr. Gregory Russell, "If with all Your Hearts ye Truly Seek Him" (from "Elijah") (Mendelssohn).
 8.30: Choir—British Broadcasting Company's Choir, "A Few More Years Shall Roll" (Bonner, Hayne) (Columbia Record 01211).
 8.34: Soprano solo—Mrs. P. S. Lawrence, "There is a Bower of Roses" (Stanford).
 8.38: Organ solos—G. T. Pattman, (a) "Kashmiri Song" (b) "Till I Wake" (from "Four Indian Love Lyrics") (Woodforde-Finden) (Columbia Record 02696).
 8.42: Soprano and tenor duet—Mrs. P. S. Lawrence and Mr. Gregory Russell, "Love Divine" (from "The Daughter of Jairus") (Stainer).
 8.46: Orchestral with chorus—Bayreuth Festival Orchestra, "Parsifal" (The Grail Scene) (Wagner) (Columbia Record L2008).
 8.50: Tenor solos—Mr. Gregory Russell, (a) "Passing By" (Purcell); (b) "On Wings of Song" (Mendelssohn).
 8.55: Grand organ solos—Reginald Goss-Custard, (a) "The Question"; (b) "The Answer" (Wolstenholme) (H.M.V. Record E415).
 9.3: Soprano solo—Mrs. P. S. Lawrence, "For Ever and Ever" (Tosti).
 9.7: Band selections—U.S. Navy Band, (a) "Anchor's Aweigh" (march) (Zimmerman); (b) "All Hands" (march) (Benter) (Zonophone Record EE105).
 9.15: Soprano and tenor duet—Mrs. P. S. Lawrence and Mr. Gregory Russell, "Dear Love of Mine" (from "Nadeska") (Goring Thomas).
 9.19: Studio gramophone recital of selected items (electrically reproduced).
 9.30: Close down.

4YA, DUNEDIN (463 METRES)—SUNDAY, NOVEMBER 18.

- 5.30 p.m.: Children's song service conducted by Big Brother Bill.
 6.30: Relay of service from the Methodist Central Mission. Preacher, Rev. W. Walker. Organist, Mr. Chas. A. Martin.
 8.0: Relay from St. Kilda of concert by the St. Kilda Band.
 9.15: Close down.

Monday, November 19

1YA, AUCKLAND (333 METRES)—MONDAY, NOVEMBER 19.

(SILENT DAY.)

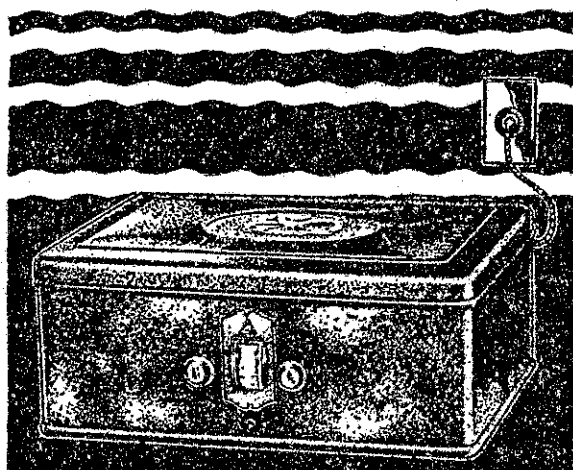
2YA, WELLINGTON (420 METRES)—MONDAY, NOVEMBER 19.

- 3.0 p.m.: Chimes of the G.P.O. Clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sports results to hand.
 5.0: Close down.
 7.0: News session, market reports and sports results.

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7.40: Lecturette—Mr. H. C. South, "Books—Grave and Gay."
8.0: Chimes of the G.P.O. Clock.

"Schubert Centenary" Programme.

8.1: Overture—Orchestra, "Rosamunde" (Schubert).
8.10: Soprano solos—Miss Nora Gray, (a) "Acknowledgement to the Brook" (Schubert); (b) "The Inquirer" (Schubert).
8.16: Instrumental quintette—Miss Ava Symons, Miss Lilla Hill, Messrs. G. Ellwood, Huggins and G. Short—"Forellen Quintette" (Trout).
8.26: Baritone solos—Mr. John Prouse, (a) "The Wanderer" (Schubert); (b) "The Linden Tree" (Schubert).
8.33: String trio—Thibaud, Casals, Cortot, "1st Movement from Trio No. 1 in B Flat" (Allegro Moderato) (Schubert) (H.M.V. Records DB947/8).
8.45: Contralto solos—Miss Hilda Chudley, (a) "Litany" (Schubert); (b) "Cradle Song" (Schubert).
8.51: Pianoforte solo—Mr. Gordon Short, "Impromptu in B Flat" (Schubert).
8.57: Tenor solos—Mr. Roy Hill, (a) "Impatience" (Schubert); (b) "Hark, Hark, the Lark" (Schubert).
9.3: Instrumental—Orchestra, "Unfinished Symphony" (1st movement) (Schubert).
9.11: Weather forecast.
9.12: Lecturette—Mr. Robert Parker, "Schubert."
9.27: Soprano solos—Miss Nora Gray, (a) "In the Wood" (Schubert); (b) "On the Lake" (Schubert).
9.31: String Quartet—Budapest String Quartet, "2nd Movement" (Andante con Moto) from "Quartet in D Minor" (Death and the Maiden) (Schubert) (H.M.V. Records D1424/5).
(This movement takes the form of "An Air and Variations." The air is borrowed from one of Schubert's own songs, "Death and the Maiden (Tod und das Madchen)", and it is to this movement that the work owes its name).
9.43: Baritone solos—Mr. John Prouse, (a) "Courage" (Schubert); (b) "The Erl King" (Schubert).
9.50: Fantasia—Orchestra, "From Schubert's Sketch Book" (arrgd. Ernest Urbach), (being a collection of Schubert's most popular melodies).
10.5: Contralto solo—Miss Hilda Chudley, "The Trout" (Schubert).
10.9: Tenor solos—Mr. Roy Hill, (a) "Serenade" (Schubert); (b) "Who is Sylvia" (Schubert).
10.17: Selection—Orchestra, "Entr'acte" and "Ballet Music" from "Rosamunde" (Schubert).
Close down.

3YA, CHRISTCHURCH (306 METRES)—MONDAY, NOVEMBER 19.

3 p.m.: Afternoon session—Selected studio items.
4.30: Close down.
6.0: Children's session, conducted by Scatterjoy.
7.15: News session.
8.0: Chimes.
Studio programme by Woolston Band, under the conductorship of Mr. R. J. Estall, and assisting artists.
8.1: March—Band, "Ravenswood" (Rimmer).
Grand march—Band, "Grand March" from "La Reine di Saba" (Gounod).
8.12: Concerted with orchestra—Light Opera Company, "Lady Luck", vocal gems (Hedley) (H.M.V. Record C1346).
8.16: Baritone solo—Mr. E. A. Dowell, "Just a Rose in the Garden of Weeds" (Worton David).
8.20: Contralto solo—Miss Constance Flamank, "Sink, Sink, Red Sun" (Del Reigo).
8.34: Wurlitzer organ solo—Reginald Foort, "Ballet. Egyptien" (Luigini) (H.M.V. Record B2479).
8.32: Entertainer—Mr. Charles Lawrence.
8.39: Tone poem—Band, "Lorely" (Nevadsua).
Waltz—Band, "Sunset on the St. Lawrence" (Hiller).
8.50: Soprano solo—Miss Marjory Miller, "Here's to Love and Laughter" (from "The Sunshine Girl" (Rubens)).
8.54: Tenor with violin, 'cello and piano, "Mary" (Richardson) (H.M.V. Record DA901).
8.58: Symphony—Band, "Unfinished Symphony Nos. 1 and 2" (Schubert).
9.5: Weather forecast.
9.7: Contralto solos—Miss Constance Flamank, (a) "Dream O' Day Jill" (German); (b) "Home Song" (Liddle).
9.13: Carillon, "Fantasia of Popular Airs" (H.M.V. Record B2683).
9.21: Baritone solos—Mr. E. A. Dowell, (a) "The Sunshine of Your Smile" (Cooke); (b) "At Peace with the World" (Berlin).
9.27: Cornet solo with band accompaniment—Bandsman R. Barber "O Sole Mio" (Di Capua).
9.32: Entertainer—Mr. Charles Lawrence.

9.39: Marimba Orchestra, "Down Hawaii Way" (Heagney) (Zono. Record 3852).
9.43: Soprano solos—Miss Marjory Miller, (a) "A Little Coon's Prayer" (Hope); (b) "Smiling Through" (Ball).
9.50: Descriptive sketch—Band, "The Elephant's Parade" (Basque).
March—Band, "Cavalry of the Clouds" (Alford).
God Save the King.

4YA, DUNEDIN (463 METRES)—MONDAY, NOVEMBER 19.

(SILENT DAY.)

Tuesday, November 20

1YA, AUCKLAND (333 METRES)—TUESDAY, NOVEMBER 20.

3 p.m.: Afternoon session—Selected studio items.
4.0: Literary selection by the Announcer.
4.8: Selected studio items.
4.25: Sports results.
4.30: Close down.
6.0: Children's session conducted by Uncle George.
7.15: News and market reports—book review.
8.0: Chimes.
8.0: Overture—Orchestra, "Light Cavalry" (Suppe).
8.11: Baritone solo—Mr. Leo O'Malley, "Father O'Flynn" (arr. Stanford).
8.15: Pianoforte solo—Mr. Cyril Towsey, "Sonata Pathetique" (Beethoven).
8.19: Soprano solo—Miss Marjorie Fair, "Grey Days" (Johnson).
8.23: Suite—Orchestra, "Suite le Cid" (Massenet).
8.33: Baritone solo—Mr. Len Kevin, "The Two Grenadiers" (Schumann).
8.37: Relay of musical entr'acte from the Majestic Theatre Orchestra, under the conductorship of Mr. J. Whiteford Waugh.
8.41: Soprano solo—Miss Nancye Hanna, "My Dearest Heart" (Sullivan).
8.45: 'Cello solo with orchestral accompaniment—Miss Molly Wright and Orchestra, "Star of Eve" (Wagner, arr. Bellingham).
Orchestra—Orchestra, "Gondoliera" (Moszkowski).
8.57: Weather forecast.
8.59: Talk—Mr. A. B. Chappell, M.A., "Talks on the Maori—His Legendary Lore."
9.14: Presentation of excerpts from "The Maid of the Mountains" (Tate), produced under the direction of Madame Irene Ainsley:—

Cast.

Miss Nancye Hanna	Mr. Len Kevin
Miss Marjorie Fair	Mr. Leo. O' Malley

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Orchestral selection—Orchestra, "Maid of the Mountains."

Chorus—"Friends Have to Part."

Solo—"Love For To-day."

Solo—"My Life is Love."

Solo and chorus—"Dividing the Spoil."

Chorus—"We are Gathered Here."

Solo—"Love Will Find a Way."

Entr'acte—Orchestra.

Duet—"A Paradise for Two."

Duet—"Husband and Wife."

Solo—"A Bachelor Gay."

Chorus—"Fisher Folk Chorus."

Solo and chorus—"Good People, Gather Round."

Duet—"When We're in Love."

Duet—"Over There and Over Here."

Finale and duet—"Friendship and Love."

10.0: God Save the King.

2YA, WELLINGTON (420 METRES)—TUESDAY, NOVEMBER 20.

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

3.1: Selected gramophone items.

4.30 and 4.55: Sports results to hand.

5.0: Close down.

6.0: Children's session conducted by Big Brother Jack.

7.0: News session—Market reports and sports results.

7.40: Lecture—"For the Man on the Land," by a representative of the Agricultural Department.

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

"Competition" Programme.

8.1: Announcement of Competition.

8.3: Item No. 1: Symphony Orchestra—"Poet and Peasant" Overture (Suppe) (Columbia Record 02618).

8.11: Item No. 2: Comic opera (vocal) — "Memories" from "The Student Prince" (Romberg) (Columbia Record 02511).

8.15: Item No. 3: Pianoforte solo—"Liebestraume" (Liszt) (Columbia Record 02568).

8.19: Item No. 4: Grand opera—"Credo" from "Otello" (Verdi) (Columbia Record 04176).

8.23: Item No. 5: Saxophone solo—"Valse Mazanetta" (Wiedoeft) (Columbia Record 01176).

8.26: Item No. 6: Song (comic)—"I'm 94 To-day" (Fyffe) (Columbia Record 961).

8.30: Item No. 7: Light orchestra—"March of the Toys" (Herbert) (Columbia Record 02651).

8.34: Item No. 8: Soprano solo (with flute obbligato), "I've Seen the Swallows Pass" (Dell'Acqua) (Columbia Record 04137).

8.38: Item No. 9: Orchestra and chorus—"In a Persian Market" (Ketelbey) (Columbia Record 09504).

8.45: Item No. 10: Violin solo—"Hungarian Dance No. 1" (Brahms—Joachim) (Columbia Record 09504).

8.49: Item No. 11: Baritone solo—"Slumber On, My Little Gipsy Sweetheart" (Herbert) (Columbia Record 02574).

8.53: Item No. 12: Hawaiian Marimba Orchestra—"Three O'Clock in the Morning" (Robledo) (Columbia Record 02685).

8.57: Item No. 13: Grand opera (solo)—"Largo Al Factotum" from "The Barber of Seville" (Rossini) (Columbia Record 04173).

9.1: Weather forecast.

9.2: Item No. 14: Comic opera (orchestral)—Selection from "The Gondoliers" (Sullivan) (Columbia Record 979).

9.6: Item No. 15: Revue (duet), Gems from "Oh! Kay" (Gershwin) (Columbia Record 02572).

9.10: Item No. 16: Jazz orchestra—"Get Out and Get Under the Moon" (Shay, Tobias, Jerome) (Columbia Record 07001).

9.14: Item No. 17: Military Band—"Martial Moments" (arr. Winter) (Columbia Record 9065).

9.18: Announcement of the Competition.
Repeat concert.

10.44: Close down.

3YA, CHRISTCHURCH (306 METRES)—TUESDAY, NOVEMBER 20.

SILENT DAY.

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40 MANNERS STREET, WELLINGTON.

4YA, DUNEDIN (463 METRES)—TUESDAY, NOVEMBER 20.

3 p.m.: Town Hall chimes.

3.1: Gramophone concert.

4.25: Sports results to hand.

4.30: Close down.

6.0: Town Hall chimes.

6.1: Children's session conducted by Big Brother Bill.

7.15: News session.

8.0: Town Hall chimes.

Concert by the St. Kilda Band, under the direction of Bandmaster James Dixon, and assisting artists.

8.1: March—Band, "Adventurer" (Seddon).

8.5: Serenade—Band, "Moonlight" (Moret).

8.11: Bass solos—Mr. E. G. Bond, (a) "Mine Enemy" (Rudd); (b) "The Rebel" (Wallace).

8.18: Duet with chorus and orchestra, "Deep in My Heart, Dear," from "The Student Prince" (Romberg) (Columbia Record 02511).

8.22: Contralto solo—Miss Wyn McPeak, "The Enchantress" (Hatton).

8.26: Selection—Band, "Rose Marie" (Friml).

8.36: Recital—Mr. Lester Moller, "An Insurance Act" (Milne).

8.41: Hawaiian guitar duet—"Hawaiian Hotel" (Nainas) (Regal Record G7667).

8.45: Tenor solos—Mr. L. E. Dalley, (a) "Mistress Mine" (Quilter); (b) "Fair House of Joy" (Quilter).

8.52: Cornet solo with band accompaniment, "My Prayer" (Squire).

8.58: Weather forecast.

9.0: Address by Rev. W. B. Scott—"Two Great Maoris—Tamati Waka Nene and Patuone."

9.15: Waltz—Band, "Song d'Ete" (Thurbon).

9.25: Intermezzo—Band, "Prelude" (Rachmaninoff).

9.30: Bass solo—Mr. E. G. Bond, "Stonecracker John" (Coates).

9.33: Saxophone solo—Rudy Wiedoeft, "La Cinquantine" (arr. Wiedoeft) (Columbia Record 4037).

9.37: Contralto solos—Miss Wyn McPeak, (a) "Four by the Clock" (Mallinson); (b) "Violet" (Mallinson).

9.45: Japanese Romance—Band, "Poppies" (Moret).

9.51: Recitals—Mr. Lester Moller, (a) "Scene from the Trojan War" (Drinkwater); (b) "The Art of Shaking Hands" (Roberts).

9.59: Tenor solo—Mr. L. E. Dalley, "The Bonnie Banks of Loch Lomond" (Campbell).

10.2: March—Band, "Southern Cross" (Rowlings).

10.6: Close down.

Wednesday, November 21

1YA, AUCKLAND (333 METRES)—WEDNESDAY, NOVEMBER 21.

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

4.0: Literary selection by the Announcer.

4.8: Selected studio items.

4.25: Sports results.

4.30: Close down.

6.0: Children's session, conducted by Uncle Tom.

7.15: News and market reports—sports results.

7.45: Talk—Mr. Norman Kerr, "Physical Culture."

8.0: Chimes.

8.1: Announcement of Competition.

8.3: Item No. 1: Symphony Orchestra—"Poet and Peasant" Overture (Suppe) (Columbia Record 02618).

8.11: 2: Comic opera (vocal), "Memories" from "The Student Prince" (Romberg) (Columbia 02511).

8.15: 3: Pianoforte solo, "Liebestraume" (Liszt) (Columbia 02568).

8.19: 4: Grand opera, "Credo" (from "Otello" (Verdi) (Columbia 04176).

8.23: 5: Saxophone solo, "Valse Mazanetta" (Wiedoeft) (Columbia 01176).

8.26: 6: Song (comic), "I'm 94 To-day" (Fyffe) (Columbia 961).

8.30: 7: Light orchestra, "March of the Toys" (Herbert) (Columbia 02651).

8.34: 8: Soprano solo (with flute obligato), "I've Seen the Swallows Pass" (Dell'Acqua) (Columbia 04137).

8.38: 9: Orchestra and chorus, "In a Persian Market" (Ketelbey) (Columbia 09504).

8.45: 10: Violin solo, "Hungarian Dance No. 1" (Brahms—Joachim) (Columbia 09504).

8.49: 11: Baritone solo, "Slumber on My Little Gipsy Sweetheart" (Herbert) (Columbia 02685).

8.53: 12: Hawaiian marimba orchestra, "Three O'Clock in the Morning" (Robledo) (Columbia 02685).

8.57: 13: Grand opera (solo), "Largo Al Factotum," from "The Barber of Seville" (Rossini) (Columbia 04173).

9.1: Weather forecast.

9.2: Item No. 14: Comic opera (orchestral), selection from "The Gondoliers" (Sullivan) (Columbia 979).

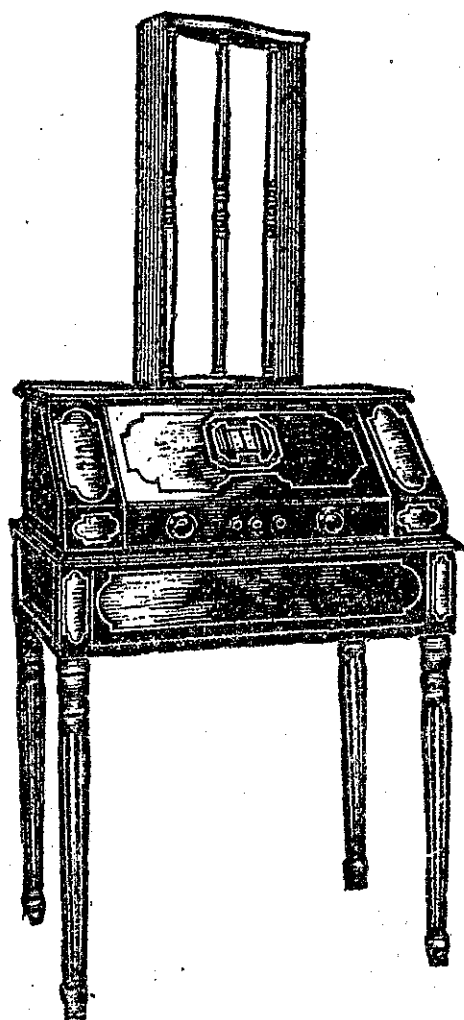
9.6: 15: Revue (duet), gems from "Oh! Kay" (Gershwin) (Columbia 02572).

9.10: 16: Jazz orchestra, "Get Out and Get Under The Moon" (Shay, Tobias, Jerome) (Columbia 07001).

9.14: 17: Military band, "Martial Moments" (arr. Winter) (Columbia 9065).



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G.P.O. BOX 830, WELLINGTON.

- 9.18: Announcement of competition.
Repeat concert.
10.33: Close down.

2YA, WELLINGTON (420 METRES)—WEDNESDAY, NOVEMBER 21.

SILENT DAY.

3YA, CHRISTCHURCH (306 METRES)—WEDNESDAY, NOVEMBER 21.

- 3.0 p.m.: Afternoon session—Selected studio items.
4.30: Close down.
6.0: Children's session conducted by Uncle Peter.
7.15: Addington stock market reports.
7.30: News session.
8.0: Chimes.

"Schubert" Centenary Programme.

(Franz Schubert was born at Vienna in 1797. At the age of 11 he entered the Court Chapel and was afterwards an undermaster in his father's school, where he wrote his famous song "The Erl King." Through his singer friend, Vogt, his songs became known to the Viennese, but he obtained very little money by them, and lived in great poverty. His works include over 600 songs, 10 symphonies, 6 masses and a great deal of chamber music, besides several operas, overtures and cantatas. He gave his one and only concert on March 26, 1828 and died the following November 1828).

- 8.1: Lecture—Mr. T. Vernon Griffiths, M.A. (Mus. Bac.), "Schubert—His Life and Work."
8.16: Overture—New Queen's Hall Orchestra, "Unfinished Symphony" (Schubert) (Columbia Records L1791 2 and 3).
8.38: Contralto solo—Miss Dulcie Mitchell, "To Music" (Schubert).
8.43: Pianoforte solo—Miss Dorothy Davies, "Impromptu in A Flat" (Op. 142, No. 2) (Schubert).
8.48: Tenor solos—Mr. Harold Prescott, (a) "Serenade" (Schubert), (b) "Ave Maria" (Schubert).
8.55: Weather forecast.
8.57: Instrumental trio—Christchurch Broadcasting Trio, "Allegro Moderato" (from "Trio Op. 99") (Schubert).
9.9: Soprano solo—Miss Lillian Hanham, "Hymn to the Almighty" (Schubert).
9.13: String quartet—Budapest String Quartet, 2nd. Movement (Andante con Moto) from "Quartet in D Minor" (Death and the Maiden) (Schubert) (H.M.V. Records D1424 and D1425): (This movement takes the form of an "Air and Variations." The air is borrowed from one of Schubert's own songs, "Death and the Maiden" (Tod und das Madchen), and it is to this movement that the work owes its name).
9.25: Baritone solo—Mr. Fred. C. Penfold, "The Erl King" (Schubert).
9.30: Orchestra—Halle Orchestra, "Rosamunde Overture" (Schubert), (Columbia O4056).
9.37: Contralto solos—Miss Dulcie Mitchell, (a) "Evening Boat Song" (Schubert), (b) "Wild Rose" (Schubert).
9.43: Pianoforte solo—Miss Dorothy Davies, "Impromptu in A Flat" (Op. 90 No. 4) (Schubert).
9.47: Tenor solo—Mr. Harold Prescott, "Who Is Sylvia?" (Schubert).
9.51: Cello solo—Mr. Harold Beck, "Cradle Song" (Schubert).
9.55: Soprano solos—Miss Lillian Hanham, (a) "Hark, Hark the Lark" (Schubert), (b) "Whither" (Schubert).
10.1: Instrumental trio—Christchurch Broadcasting Trio, "Rondo" (from 4th Movement of Trio, Op. 99) (Schubert).
10.10: Bass solo—Mr. F. Penfold, "The Wanderer" (Schubert).
10.14: Orchestral—Royal Opera Orchestra, "Marche Militaire" (Schubert) (H.M.V. Record C1279).
10.18: Close down.

4YA, DUNEDIN (463 METRES)—WEDNESDAY, NOVEMBER 21.

- 3.0 p.m.: Town Hall chimes.
3.1: Gramophone items.
3.15: Talk on "Fashions" by Miss Buccleuch of the D.S.A. Ltd.
3.30: Relay of afternoon-tea music from the Savoy.
3.45: Studio items.
4.0: Relay of music from the Savoy.

- 4.15: Gramophone items.
4.30: Close down.
6.0: Town Hall chimes.
6.1: Children's session conducted by Aunt Sheila and Big Brother Bill.
7.15: News session.
8.0: Town Hall chimes.

"Competition" Programme.

- 8.1: Announcement of competition.
8.3: Item No. 1—Symphony Orchestra, "Poet and Peasant," overture (Suppe) (Columbia Record 02618).
8.11: Item No. 2—Comic opera (vocal), "Memories" from "The Student Prince" (Romberg) (Columbia 02511).
8.15: Item No. 3—Pianoforte solo, "Liebestraume" (Liszt) (Columbia 02568).
8.19: Item No. 4—Grand opera, "Credo" from "Otello" (Verdi) (Columbia 04176).
8.23: Item No. 5—Saxophone solo, "Valse Mazanetta" (Wiedoeft) (Columbia 01176).
8.26: Item No. 6—Song (comic), "I'm 94 To-day" (Fyffe) (Columbia 961).
8.30: Item No. 7—Light orchestra, "March of the Toys" (Herbert) (Columbia 02651).
8.34: Item No. 8—Soprano solo (with flute obligato), "I've Seen the Swallows Pass" (Dell'Acqua) (Columbia 04137).
8.38: Item No. 9—Orchestra and chorus, "In a Persian Market" (Ketelbey), (Columbia 02689).
8.45: Item No. 10—Violin solo, "Hungarian Dance No. 1" (Brahms-Joachim), (Columbia 09504).
8.49: Item No. 11—Baritone solo, "Slumber On, My Little Gipsy Sweetheart" (Herbert) (Columbia 02574).
8.53: Item No. 12—Hawaiian marimba orchestra, "Three O'Clock in the Morning" (Robledo) (Columbia 02685).
8.57: Item No. 13—Grand opera (solo), "Largo Al Factotum" from "The Barber of Seville" (Rossini) (Columbia 04173).
9.1: Weather forecast.
9.2: Item No. 14—Comic opera (orchestral), selection from "The Gondoliers" (Sullivan) (Columbia 979).
9.6: Item No. 15—Revue (duet), gems from "Oh! Kay" (Gershwin) (Columbia 02572).
9.10: Item No. 16—Jazz orchestra, "Get Out and Get Under the Moon" (Shay, Tobias, Jerome) (Columbia 07001).
9.14: Item No. 17—Military Band, "Martial Moments" (Arrgd. Winter) (Columbia 9065).
9.18: Announcement of the competition. Repeat concert.
10.33: Close down.

Thursday, November 22

1YA, AUCKLAND (333 METRES)—THURSDAY, NOVEMBER 22.

- 3 p.m. Afternoon session—Selected studio items.
4.0: Literary selection by the Announcer.
4.8: Selected studio items.
4.25: Sports results.
4.30: Close down.
6.0: Children's session conducted by Peter Pan.
7.15: Talk—Mr. Leonard Griffiths, F.R.H.S., "Garden Hints, and the Influence of the Garden."
7.30: News and market reports.
8.0: Chimes.
8.1: Orchestral—Royal Opera Orchestra, "Carmen" Ballet, Nos. 1 and 2 (Bizet) (H.M.V. Record C1424).
8.9: Vocal quartet—Lyric Quartet, "A Musical Muddle" (Cadin).
8.13: Instrumental Trio—Auckland Trio, "Andantino and Finale" from "Trio No. 5" (Haydn).
8.21: Tenor solo—Mr. Herbert Richards, "The Sweepers" (Elgar).
8.25: Musical sketches—Griffiths Duo, (a) "Pierrot's Christmas Tree"; (b) "Pierrot Married."
8.34: Soprano with orchestra—Amelita Galli-Curci, "The Last Rose of Summer" (arr. Moore) (H.M.V. Record DB602).
8.38: Bass solo—Mr. Ernest Thomas, "A Farewell in the Desert" (Adams).
8.42: Violin solo—Miss Ina Bosworth, "On Wings of Song" (Mendelssohn).
8.46: Humour—Mr. Alan McElwain, some humour.
8.50: Vocal quartet—Lyric Quartet, "Eileen Alannah" (Metcalf).
8.59: Weather forecast.
9.1: Orchestral—National Symphony Orchestra, "Cortege de Bacchus" ("Sylvia Ballet") (Delibes) (H.M.V. Record EB24).
9.5: Vocal and humorous—The Asquiths, thirty minutes' drawing-room entertainment.
9.35: Instrumental trio—Auckland Trio, "Overture to 'Figaro'" (Mozart).
9.41: Vocal duet—Messrs. Richards and Thomas, "Larboard Watch" (Williams).
9.45: Grand organ solo—Edwin H. Lemare, "Chant de Bonheur" (Song of Happiness) (Lemare) (Zonophone Record EE93).
9.48: Elocution and humour—Griffiths Duo, (a) Dramatic sketch, "The Dream House"; (b) "How We Laugh."
9.55: Tenor solo—Mr. Arthur Ripley, "O Vision Entrancing" (Thomas).
9.58: Orchestral—Salon Orchestra, "The Glow-Worm Idyll" (Lincke) (H.M.V. Record B2169).
10.1: Vocal quartet—Lyric Quartet, "'Cos I'd Nothin' Else to Do" (Parkes).
10.4: Close down.

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2YA WELLINGTON (420 METRES)—THURSDAY, NOVEMBER 22.

- 3 p.m.: Chimes of the G.P.O. Clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sports results to hand.
 5.0: Close down.
 6.0: Children's session conducted by Aunt Gwen.
 7.0: News session, market reports and sports results.
 7.40: Lecturette on "Gardening"—Mr. A. J. Nicholls, representative of Hutt Valley Horticultural Society.
 8.0: Chimes of the G.P.O. Clock.
 Studio concert by the Band of 1st. Battalion Wellington Regiment under the conductorship of Lieutenant Shardlow, and assisting artists.
 8.1: March—Band, "The North Star" (Rimmer).
 Descriptive selection—Band, "A Rural Wedding" (Cope).
 8.18: Tenor solos—Mr. Chas. Williams, (a) "In Old Donore" (Thompson); (b) "Dear Old Ilfracombe" (Verne).
 8.24: Vocal quartet—Lyric Quartet, "Serenade" (Mendelssohn).
 8.28: Concerted with orchestra—Carte D'Oyly Opera Co., "Are You Peeping?" (from "The Gondoliers") (Sullivan) (H.M.V. Record D1336).
 8.32: Bass solos—Mr. W. Binet Brown, (a) "Give a Man a Horse" (O'Hara); (b) "Nuthin'" (Carpenter).
 8.38: Recital—Miss Thelma Aitken, "Lizette."
 8.43: Soprano with orchestra—Toti Dal Monte, "Splendon Le Sacre Faci" (Mad Scene from "Lucia di Lammermoor") (Donizetti), (H.M.V. Record DB1015).
 8.51: Waltz—Band, "Nights of Gladness" (Ancliffe).
 Entr'acte—Band, "The Wind" (Heller).
 9.3: Weather forecast.
 9.4: Lecturette—Mr. Johannes Andersen, "Native Birds."
 9.16: Vocal quartet—Lyric Quartet, "Pussy's in the Well" (Herbert).
 9.20: Vocal duet—Messrs. Chas. Williams and Will Goudie (selected).
 9.24: March—Band, "Punchinello" (Rimmer).
 Selection—Band, "Prelude" (Rachmaninoff).
 9.33: Vocal quartet—Lyric Quartet, "Juanita" (Arr. Parks).
 9.37: Humour—Miss Thelma Aitken, "Knitting."
 9.42: Selection—Band, "Rose Marie (Friml), (a) "The Norseman's Song" (Allitsen); (b) "Arguing Wife."
 9.54: Baritone solos—Mr. Will Goudie.
 10.0: Vocal quartet—Lyric Quartet, "Little Tommy" (Macy).
 10.4: March—Band, "Punjaub" (Thiere). (This march was chosen by the late General Fulton as the official march of the New Zealand Rifle Brigade, and is played in memory of those members of the N.Z. Rifle Brigade who made the supreme sacrifice during the Great War).
 Close down.

3YA, CHRISTCHURCH (306 METRES)—THURSDAY, NOVEMBER 22.

- 3 p.m.: Afternoon session—selected studio items.
 4.30: Close down.
 6.0: Children's session conducted by Uncle Hal.
 7.0: News session.
 8.0: Chimes

"Competition" Programme.

- 8.1: Announcement of Competition.
 8.3: Item No. 1—Symphony orchestra, "Poet and Peasant" overture (Suppe) (Columbia Record 02618).
 8.11: Item No. 2—Comic opera (vocal), "Memories" from "The Student Prince" (Romberg) (Columbia 02511).
 8.15: Item No. 3—Pianoforte solo, "Liebestraume" (Liszt) (Columbia 02568).
 8.19: Item No. 4—Grand Opera, "Credo" from "Otello" (Verdi) (Columbia 04176).
 8.23: Item No. 5—Saxophone solo, "Valse Mazanetta" (Wiedoeft) (Columbia 01176).
 8.26: Item No. 6—Song (comic), "I'm 94 To-day" (Fyffe) (Columbia 961).
 8.30: Item No. 7—Light orchestra, "March of the Toys" (Herbert), (Columbia 02651).
 8.34: Item No. 8—Soprano solo (with flute obligato), "I've Seen the Swallows Pass" (Dell 'Acqua) (Columbia 04137).
 8.38: Item No. 9—Orchestra and chorus, "In a Persian Market" (Ketelbey), (Columbia 09504).
 8.45: Item No. 10—Violin solo, "Hungarian Dance No. 1" (Brahms-Joachim) (Columbia 09504).
 8.49: Item No. 11—Baritone solo, "Slumber On, My Little Gipsy Sweetheart" (Herbert) (Columbia 02685).
 8.53: Item No. 12—Hawaiian marimba orchestra, "Three O'Clock in the Morning" (Robledo) (Columbia 02685).
 8.57: Item No. 13—Grand opera (solo), "Largo Al Factotum" from "The Barber of Seville" (Rossini) (Columbia 04173).
 9.1: Weather forecast.
 9.2: Item No. 14—Comic opera (orchestral), selection from "The Gondoliers" (Sullivan) (Columbia 979).
 9.6: Item No. 15—Revue (duet), gems from "Oh! Kay" (Gershwin), (Columbia 02572).
 9.10: Item No. 16—Jazz orchestra, "Get Out and Get Under the Moon" (Shay, Tobias, Jerome) (Columbia 07001).
 9.14: Item No. 17—Military Band, "Martial Moments" (Arrgd. Winter) (Columbia 9065).
 9.18: Announcement of competition. Repeat concert.
 10.33: Close down.

4YA, DUNEDIN (463 METRES)—THURSDAY, NOVEMBER 22.

SILENT DAY.

Friday, November 23**1YA, AUCKLAND (333 METRES)—FRIDAY, NOVEMBER 23.**

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the Announcer.
 4.8: Studio items.
 4.25: Sports results to hand.
 4.30: Close down.
 6.0: Children's session conducted by Aunt Jean.
 7.15: News and market reports.
 8.0: Chimes.
 8.1: March—Orchestra, "Entry of the Gladiators" (Fuick).
 Waltz—Orchestra, "Merry Widow" (Lehar).
 8.11: Vocal quartet—Clarion Quartet, "A Family Affair" (Parkes).
 8.15: Contralto with orchestra and chorus—Marie Olczewska and Berlin State Opera Orchestra, "Ja, Die Liebe Hat Bunte Flugel" ("Habanera" from "Carmen"—Bizet) (H.M.V. Record D1386).
 8.19: Bass solo—Mr. Duncan Black, "Mohac's Field" (Korby).
 8.23: Instrumental—Auckland Concertina Band, (a) March, "For Liberty" (Tyrall); (b) "Favourite Waltzes" Selection (arr. Bardwell).
 8.31: Vocal duet—Miss A. McGruer and Mr. J. Simpson, "I Love the Moon" (Rubens).
 8.35: Humour—Mr. J. F. Montague, "While I Think of It" (original).
 8.41: Baritone with male quartet—John Goss and Cathedral Male Voice Quartet, (a) "Haul Away, Joe"; (b) "What Shall We Do with a Drunken Sailor" (arr. Terry).
 8.45: Contralto solo—"All in a Garden Green" (Lidgey).
 8.49: Flute solo with orchestral accompaniment—Mr. Victor Bedford and orchestra, "Serenade" (Titl).
 8.55: Weather forecast.
 8.57: Song suite—Orchestra, "Four Indian Love Lyrics" (Woodforde-Finden):
 (1) Temple Bells; (2) Less than the Dust; (3) Kashmiri Song; (4) Till I Wake.
 9.10: Vocal quartet—Clarion Quartet, "The Vale of Rest" (Mendelssohn).
 9.14: Cinema organ solo—Charles W. Saxby, F.R.C.O., "Classica," potpourri selection (arr. Ewing) (Zonophone Record A334).
 9.22: Tenor solo—Mr. James Simpson, "Love-Lilly" (Thompson).
 9.26: Instrumental—Auckland Concertina Band, (a) "Caramba March" (Laarendeau); (b) "Love's Old Sweet Song" (Molloy).
 9.34: Vocal duet—Miss B. Smith and Mr. D. Black, "Nocturne" (Denza).
 9.37: Baritone with male quartet—John Goss and Cathedral Male Voice Quartet, (a) "Fire Down Below" (Harris), (b) "Hullabalooalay" (H.M.V. Record B2420).
 9.41: Recital—Mr. J. F. Montague, a Dickens sketch, "Sairey Gamp."
 9.45: Soprano solo—Miss Alma McGruer, "Rose Softly Blooming" (Spohr).
 9.50: Musical comedy selection—Orchestra, "The Student Prince" (Romberg).
 Close down.

2YA, WELLINGTON (420 METRES)—FRIDAY, NOVEMBER 23.

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sports results to hand.
 5.0: Close down.
 6.0: Children's session conducted by Uncle Ernest.
 7.0: News session, market reports and sports results.
 7.40: Lecturette—Mr. N. R. Jacobsen, "Time for Time, Demand for Demand, the Education of the 60's and 70's was More Effective than To-day."
 8.0: Chimes of the G.P.O. clock.
 8.1: Overture—Orchestra, "Le Songe d'Une Nuit d'Ete" (Midsummer Night's Dream) (Mendelssohn).
 8.19: Soprano solo—Mrs. Ellison Porter, "One Fine Day," from "Madame Butterfly" (Puccini).
 8.23: Baritone solo—Mr. S. E. Rodger, "The Gipsy Song" (Lehar).
 8.27: Waltz—Orchestra, "Valse" (Chopin).
 Selection—Orchestra, "Der Freischutz" (Weber).
 8.36: Contralto solo—Miss Madge Freeman, "Habanera," from "Carmen" (Bizet).
 8.40: Wurlitzer organ solos—Reginald Foort, (a) "Overture Miniature"; (b) "Valse Fleur" (from "Nutcracker Suite") (Tchaikowsky) (H.M.V. Record C1386).
 8.48: Tenor solo—Mr. Edwin Dennis, "O Vision Entrancing" (Thomas).
 8.52: Recital—Madame Eugenie Dennis, "Vive la France" (Anon).
 8.56: Instrumental—Orchestra, repeat number.
 9.4: Weather forecast.
 9.5: Lecturette—Mr. Hunt, "Transport Through the Ages."
 9.15: Duet—Mrs. Ellison Porter and Mr. Edwin Dennis, "Miserere Scene," from "Il Trovatore" (Verdi).
 9.21: Ballet suite—Orchestra—"Ascanio Ballet Music" Part 2 (Saint-Saens):
 1. Love Appears to Psyche.
 2. Ensemble of Phoebus, Diane, Erigone, Nicoea and Bacchus with Muses, Nymphs and Bacchantes.
 3. Variation—Love Theme (soloist, Signor Truda).
 4. Entrance of the Dragon of Hesperides carrying the Golden Apple.

5. Goddesses, Bacchantes, Nyaids and Dryads.

(Saint-Saens makes great use of the woodwind in this ballet of the gods, particularly in the third number, which is noted for its brilliant flute solo.)

- 9.32: Contralto solo—Miss Madge Freeman, "Now's the Time to Love" (Gounod).
 9.36: Violin solo—Kreisler, "Caprice Viennois" (Kreisler) (H.M.V. Record DB1091).
 9.40: Baritone solo—Mr. S. E. Rodger, "The Cobbler's Song," from "Chu Chin Chow" (Norton).
 9.44: Soprano solo—Mrs. Ellison Porter, "Scenes That Are Brightest" (from "Maritana") (Wallace).
 9.48: Baritone, with male quartet—John Goss and Cathedral Male Voice Quartet, (a) "Haul Away, Joe"; (b) "What Shall We Do With a Drunken Sailor?" (arr. Terry) (H.M.V. Record B2420).
 9.52: Tenor solo—Mr. Edwin Dennis, "Yes, Let Me Like a Soldier Fall" (from "Maritana") (Wallace).
 9.57: Humour—Madame Eugenie Dennis, "Mock Tragedy."
 10.1: Musical comedy selection—Orchestra, "Primrose" (Gershwin).
 God Save the King.

3YA, CHRISTCHURCH (306 METRES)—FRIDAY, NOVEMBER 23.

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

4.30: Close down.

6.0: Children's session conducted by Big Brother.

7.15: News session.

8.0: Chimes.

8.1: Overture—rebroadcast of 2YA, Wellington (Orchestra), "Le Songe d'Une Nuit d'Ete" (Midsummer Night's Dream) (Mendelssohn).

8.19: The song cycle, "Dorothy's Wedding Day" (Lane Wilson), presented by the Melodious Four, with instrumental accompaniment by the Christchurch Broadcasting Trio:

Personnel.

Soprano Miss Frances Hamerton
 Contralto Miss Belle Renaut
 Tenor Mr. Russell Sumner
 Baritone Mr. T. D. Williams

Carillon—Quartet, "Ring Out."

Arbade—Quartet, "Softly O'er the Mountain's Brow."

Gavotte—Soprano, "Now the Lark is Up."

Musette—Quartet, "Fairest Maiden."

Minuet—Tenor, "Oh, How I Love Thee!"

Gigue—Quartet, "All the Bells are Ringing."

Sarabande—Contralto, "Dear Child."

Pastorale—Baritone, "Did You Ne'er Hear."

Pavane—Quartet, "On Both be Now the Blessing."

Finale—Quartet, "Ring Out."

8.41: Humour—John Henry and Blossom, "Blossom's Film Scenario" (Henry and Reeve) (H.M.V. Record B2384).

8.45: Pianoforte solos—Miss Aileen Warren, (a) "Cradle Song" (Brahms-Grainer); (b) "Valse Brillante in A Flat" (Chopin).

8.54: Bass solo—Mr. T. D. Williams, "The Sweet Shop" (Drummond).

8.59: Instrumental trio—Christchurch Broadcasting Trio, "Abenlied" (Schumann).

9.3: Contralto solo—Miss Belle Renaut, "An Indian Serenade" (Morgan).

9.7: Weather forecast.

9.9: Orchestra—Royal Albert Hall Orchestra, "Carmen—Prelude to Act 2" (Bizet) (H.M.V. Record E461).

9.13: Soprano solo—Miss Frances Hamerton, "Nod" (Victor Harris).

9.17: Grand organ solo—Edwin H. Lemare, "Aloha-Oe" (Farewell to Thee) (Princess Liliuokalani) (Zonophone Record EE93).

9.21: Tenor solo—Mr. Russell Sumner, "Under the Greenwood Tree" (Quilter).

9.25: Light orchestral—Piccadilly Orchestra, "Souvenir de Capri" (Bece) (H.M.V. Record B2575).

9.29: Contralto solo—Miss Belle Renaut, "A Song Remembered" (Coates).

9.33: Instrumental trio—Christchurch Broadcasting Trio, "The Dance" (Haden).

9.37: Bass solo—Mr. T. D. Williams, "The Call of the Road" (Drummond).

9.41: Band and whistlers—Arthur Pryor's Band, "The Whistler and His Dog" (Pryor) (H.M.V. Record EA26).

9.44: Soprano solo—Miss Frances Hamerton, "Ambition" (Vivian Hickey).

9.49: Tenor solo—Mr. Russell Sumner, "O Mistress Mine" (Quilter).

9.54: Foxtrot—The Troubadours, "Dream Kisses" (Yellen, Jerome) (H.M.V. Record EA269).

9.58: Scottish comedian, with orchestra—Sir Harry Lauder, "Tobermory" (Lauder) (H.M.V. Record D1229).

10.2: Dance and song programme till 11 p.m.

11.0: Close down.

4YA, DUNEDIN (463 METRES)—FRIDAY, NOVEMBER 23.

3 p.m.: Town Hall chimes.

3.1: Gramophone recital.

3.15: Talk on "Fashions" by Miss Eucleuch of the D.S.A.

3.30: Relay of afternoon-tea music from the Savoy.

3.45: Studio music.

4.0: Relay of music from the Savoy.

4.15: Gramophone items.

4.25: Sports results.

4.30: Close down.

6.0: Town Hall chimes.

6.1: Children's session conducted by Aunt Sheila and Big Brother Bill.

7.15: News session.

8.0: Town Hall chimes.

8.1: Overture—Royal Philharmonic Orchestra, "Flying Dutchman" (Wagner) (Columbia Records L1961/2).

8.13: Mezzo-soprano solos—Miss Molly Vickers, (a) "Love, Laughter and You"; (b) "Killarney" (Trötl).

8.19: Flute solo—Mr. Chas. E. Gibbons, "Golden Sparks" (Brewer).

8.25: Baritone solo—Mr. Arthur Lungley, "Trooper Johnny Ludlow" (Temple).

8.28: Contralto solos—Miss Irene Horniblow, L.R.A.M., (a) "Sometimes I Feel Like a Motherless Child" (Burleigh); (b) "Swing Low, Sweet Chariot" (Burleigh).

8.39: Pianoforte solo—Mrs. Ernest Drake, "Moonlight" (Palmgren).

8.44: Vocal duet—Miss Molly Vickers and Mr. Arthur Lungley.

8.48: Chorus with orchestra—Columbia Light Opera Company, "The Desert Song" Vocal Gems (Romberg) (Columbia Record 02558).

8.52: Baritone solos—Mr. Arthur Lungley, (a) "Drum Serenade" (Loewe); (b) "Good Fellows be Merry" (Bach).

8.59: Flute solos—Mr. Chas. E. Gibbons, (a) "My Pretty Jane" (arrgd. Le Thiere); (b) "Chanson Triste" (Tchaikowsky).

9.8: Weather forecast.

9.10: Contralto solo—Miss Irene Horniblow, "Still as the Night" (Bohm).

9.13: Orchestral—Ketelbey's Concert Orchestra, "Sanctuary of the Heart" (Ketelbey) (Columbia Record 02690).

9.21: Relay of dance music from the Savoy.

10.8: Close down.

Saturday, November 24

1YA, AUCKLAND (333 METRES)—SATURDAY, NOVEMBER 24.

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

4.0: Literary selection by the Announcer.

4.8: Studio items.

4.25: Sports results to hand.

4.30: Close down.

6.0: Children's session conducted by Cinderella.

7.15: News and market reports, sports results.

8.0: Chimes.

8.1: Band selection—H.M. Coldstream Guards, "Iolanthe" (Sullivan) (H.M.V. Record C1368).

8.5: Baritone solo—Mr. H. Barry Coney, "Wind on the Heath" (Lohr).

8.9: Instrumental trio—Auckland Trio, "First Movement, Trio in G" (Reissiger).

8.17: Soprano solo—Miss Christina Ormiston, "Vissi d'Arte" (Puccini).

8.21: Tenor with violin and 'cello—Joseph Hislop, "Mary" (Richardson) (H.M.V. Record DA901).

8.25: Piano duos—Misses Veronica Pope and Marie Darby, (a) "Hungarian Dance No. 1" (Brahms); (b) "Waltz" (Moszkowski).

8.33: Vocal duet—Miss C. Ormiston and Mr. Barry Coney, "Trot Here and There" (Mozart).

8.37: Whispering novelty—Devonshire Restaurant Dance Band, "At the End of an Irish Moonbeam" (Golden) (Zonophone Record EE84).

8.45: 'Cello solo—Miss Molly Wright, "As Once in Happy Days" (Popper).

8.49: Baritone solo—Mr. H. Barry Coney, "The Handyman" (Fisher).

8.54: Solo and chorus with orchestra—Zonophone Light Opera Company, Gems from "The Yeomen of the Guard" (Sullivan) (Zonophone Record A321).

9.2: Weather forecast.

9.4: Waltz—The Troubadours, "La Golondrina" (The Swallow) (H.M.V. Record EA349).

9.7: Soprano solos—Miss Christina Ormiston, (a) "Have You Seen but a White Lily" (Lehmann); (b) "You in a Gondola" (Clarke).

9.13: Instrumental trio—Auckland Trio, "Valse des Allouettes" (Drigo).

9.21: Vocal duet—Miss C. Ormiston and Mr. Barry Coney, "The Manly Heart" (Mozart).

9.25: Piano duo—Misses Pope and Darby, (a) "Hungary" (Moszkowski); (b) "Waltz, Op 64, No. 2" (Chopin).

9.31: Programme of dance music.

11.0: Close down.

2YA, WELLINGTON (420 METRES)—SATURDAY, NOVEMBER 24.

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

3.1: Selected gramophone items.

4.30 and 4.55: Sports results to hand.

5.0: Close down.

6.0: Children's session conducted by Uncle Toby and Aunt Gwen.

7.0: News session, market reports and sports results.

7.40: Lecturette—Mr. W. M. Dawson, "Radio Valves." Under auspices of Wellington Radio Society.

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

8.1: March—Orchestra, "Strauss March" (Mezzacapo).

Dance—Orchestra, "Dance des Persanes" (Moussorgsky).

8.9: Vocal quartet—Melodie Four.

8.13: Humour—John Henry and Blossom, "Joe Murgatroyd Says" (John Henry) (H.M.V. Record B2120).

8.17: Tenor solo—Mr. Sam Duncan, "When Other Lips" (Balfe).

8.21: Soprano with flute and piano—Marie Kurenko, "Gounod's Serenade" (Sing, Smile, and Slumber) (Gounod) (Columbia Record 04137).

- 8.25: Song at piano—Mr. E. A. Sargent, "A Fine Old English Gentleman" (Newman).
 8.30: Entr'acte—Orchestra, "Somewhere a Voice is Calling" (Tate).
 Polonaise—Orchestra, "Polonaise a Dur" (Chopin).
 8.40: Bass solo—Mr. W. W. Marshall, "The Jungle Song" (Hiscock).
 8.44: Vocal quartet—Melodie Four, "The Old Folks Medley" (Sheridan).
 8.48: Instrumental—Orchestra, repeat number.
 8.56: Weather forecast.
 8.57: Tenor solos—Mr. F. Bryant, (a) "Good Morning, Brother Sunshine" (Lehmann); (b) "The Bold Unbiddable Child" (Stanford).
 9.4: Hawaiian selections—(a) Hawaiian guitars, "Medley Waltz" (Allan, Hopkins); (b) Mandolin quartet, "Aloha Land" (Ferera) (H.M.V. Record EA24).
 9.12: Baritone solo—Mr. R. S. Allwright, "Young Tom o' Devon" (Kennedy-Russell).
 9.16: Song at piano—Mr. E. A. Sargent, "Water Scenes" (Grey).
 9.21: Musical comedy selection—Orchestra, "Pirates of Penzance" (Sullivan).
 9.31: Vocal quartet—Melodie Four, "Riding on the Dream Train" (Lewis).
 9.35: Instrumental—Orchestra, Dance Novelties.
 9.45: Dance programme.
 11.0: Close down.

3YA, CHRISTCHURCH (306 METRES)—SATURDAY, NOVEMBER 24.

- 3 p.m.: Afternoon session—Selected studio items.
 4.30: Close down.
 6.0: Children's session conducted by Chuckle and Aunt Pat.
 7.15: News session.
 7.30: Sports results.
 8.0: Chimes.
 8.1: Overture—Rebroadcast of 2YA, Wellington—Orchestra, "Strauss March" (Mezzacapo) and "Danse des Persanes" (Moussorgsky).
 Negro plantation chorus, followed by bass solo—Avonion Minstrels and Mr. James Filer, (a) "It's Gone" (Scott-Gatty); (b) "Life is a Song" (Petrie).
 8.13: Hawaiian steel guitars and ukulele trio—Miss Elaine Moody's Hawaiian Instrumental Trio, (a) "Trio, 'Plaintive Melody'" (MS.); (b) ukulele solo, "When It's Love-Time in Hawaii" (with vocal refrain).
 8.21: Soprano solo—Miss Eileen Grennell, "Rose Softly Blooming" (Spohr).
 8.25: Orchestral—Studio Orchestra, "Faust" Ballet Music (Gounod).
 8.35: Tenor solo—Mr. Ernest Rogers, "The Island of Dreams" (Adams).
 8.39: Humorous monologue—Milton Hayes, "Monty Attends a Board Meeting" (Hayes) (Columbia Record 01106).
 8.46: Happy duets—Joyous Duo, Happy Songs at the Piano (MS.).
 8.53: Foxtrot with vocal chorus—Paul Whiteman's Orchestra, "In My Bouquet of Memories" (Lewis, Young, Akst) (H.M.V. Record EA362).
 8.57: Male voice quartets—Avonion Minstrels, (a) "My Love for You" (Jones); (b) "A Mistake" (Beyan).
 9.2: Weather forecast.
 9.3: Orchestral selections—"Studio Orchestra, (a) "Intermezzo" from "Cavalleria Rusticana" (Mascagni) (violin soloist, Miss Irene Morris); (b) "Valse Bluettes" (Drigo).
 9.11: Military memories in song—Mr. Frank Olds, "The Old Brigade" (Barri).
 9.15: Wurlitzer organ solos—Chas. W. Saxby, (a) "Can't You Hear Me Say I Love You?" (Derickson, Brown); (b) "Janette" Waltz (Nicholls) (Zonophone Record 5094).
 9.22: Soprano solos—Miss Eileen Grennell, (a) "That Old Irish Mother of Mine" (Von Tilzer); (b) "Tatters" (Lane).
 9.28: Hawaiian steel guitar and ukulele trios—Elaine Moody's Hawaiian Instrumental Trio, (a) "That Saxophone Waltz" (MS.); (b) "That Varsity Rag" (with vocal refrain); (c) "Hawaiian Hulu Medley" (with vocal refrain).
 9.36: Tenor solo—Mr. Ernest Rogers, "The Garden of Your Heart" (Dorel).
 9.41: Orchestral—Studio orchestra, (a) "Esquise" (Aubert); (b) "March Militaire" (Schubert).
 9.51: Happy songs—Joyous Duo, Happy Songs at the Piano (MS.).
 9.58: Male quartet, followed by final chorus, Avonion Minstrels, (a) "Annie Laurie" (traditional); (b) "De Lecture" (Scott Gatty).
 Close down.

4YA, DUNEDIN (463 METRES)—SATURDAY, NOVEMBER 24.

- 7.15 p.m.: News session.
 8.0: Town Hall chimes.
 8.1: Relay of orchestral music from the Strand Theatre.
 8.11: Popular song hits—Miss Betty Roberts, (a) "Hawaiian Twilight" (Vandersloot); (b) "The Girl Friend" (Rodgers).
 8.18: Mandolin Band—"Torna a Surriento" (Turn to Surriento) (de Curtis) (Columbia Record 01210).
 8.22: Humorous Scottish song—Mr. J. Paterson, "Hieland Jazz" (Fyffe).
 8.26: Humorous sketch—Miss Sheila Neilson and Mr. J. B. McConnell.
 8.36: Popular song—Miss Thelma Blackman, "Somebody Else" (Meyer).
 8.40: Relay of orchestral music from the Strand Theatre.
 8.55: Comic songs with patter—Mr. Chris Harlie, (a) "It's Lucky I Keep My Temper" (Grain); (b) "Are You Working?" (Foley).
 9.2: Weather forecast.
 9.4: Trio with chorus and orchestra—"Toreador's Song" ("Carmen"—Bizet) (Columbia Record 04173).
 9.8: Popular song hit—Miss Betty Roberts, "The World is Waiting for the Sunrise" (Seitz).
 9.12: Xylophone solo—Victor Sterling, "Colonel Bogey March" (Alford) (Regal Record G20108).

- 9.16: Humorous Scottish songs—Mr. J. Paterson, (a) "I Belong to Glasgow" (Fyffe); (b) "Soosie McLean" (Lauder).
 9.23: Humorous dialogue—Miss Sheila Neilson and Mr. J. B. McConnell.
 9.33: Popular songs—Miss Thelma Blackman, (a) "In Dixieland" (Meyer), (b) "Dear, on a Night Like This."
 9.40: Tenor with orchestra—Alfred O'Shea, "Love's Garden of Roses" (Rutherford, Wood).
 Organ solo—G. T. Pattman, "Janette" Waltz (Williams, Nicholls) (Columbia Record 01144).
 9.48: Comic song with patter—Mr. Chris Harlie, "The Irish Orchestra" (Tovey).
 9.52: Foxtrots with vocal choruses—Denza Dance Band, (a) "The Dance of the Blue Danube" (Fisher); (b) "Varsity Drag" (De Sylva, Brown, and Henderson) (Columbia Record 01151).
 10.0: Close down.

Sunday, November 25

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

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the Announcer.
 4.8: Selected studio items.
 4.30: Close down.
 6.0: Children's session conducted by Uncle Leo.
 6.55: Relay of service from St. David's Church—Preacher, Rev. Ivo Bertram; organist, Mr. E. C. Craston.
 8.30: Studio recital of selected gramophone items.
 9.30: Close down.

2YA, WELLINGTON (420 METRES)—SUNDAY, NOVEMBER 25

- 3.0 p.m.: Afternoon session—Selected studio items.
 4.30: Close down.
 6.0: Children's session, conducted by Uncle Ernest.
 7.0: Relay of service from St. Thomas' Anglican Church, Newtown—Preacher: Rev. G. V. Rooke, M.A.; Organist and choirmaster: Mr. Wenzel Collie, L.L.C.M.
 8.15 (approx.): Studio concert.
 Overture—Berlin State Opera Orchestra, "Don Giovanni" (Mozart) (H.M.V. Record 463).
 Soprano solo—Miss Myra Sawyer, "Soft as the Zephyr" (Liszt).
 Duo for two pianos—Miss Nora Gray and Lalla Vondersloot, "La Sevillane" (Chaminade).
 Tenor solo—Tom Burke, "O Vision Entrancing" from "Esmeralda" (Goring-Thomas) (Columbia Record 02552).
 Orchestral—National Symphony Orchestra, "Aida" (Verdi) (Zonophone Record A340).
 Duet—Miss Myra Sawyer and Mr. Wm. Boardman, "Give Me Thy Hand, O Fairest" (from "Don Giovanni") (Mozart).
 Instrumental—Victor Olof Sextette, (a) "Cherry Ripe" (Scott); (b) "Minuet" (Boccherini) (H.M.V. Record 2697).
 Bass solo—Mr. Wm. Boardman, "Within These Sacred Bowers" (from "The Magic Flute") (Mozart).
 Violin solo—Toscha Seidel, "Meditation" (Thais) (Massenet) (Columbia 09506).
 Chorus—La Scala Chorus, "Anvil Chorus" from "Il Trovatore" (Verdi) (Columbia 01032).
 Band—H.M. Grenadier Guards, "A Midsummer Night's Dream" (Mendelssohn) (Columbia 02678).
 Soprano solo—Miss Myra Sawyer, "Solveig's Song" (Grieg).
 Duo for two pianos—Misses Nora Gray and Lalla Vondersloot, "Spanish Rhapsody" (Chabrier).
 Bass solo—Mr. Wm. Boardman, "My Last Abode" (Schubert).
 Organ solos—Arnold Grier F.R.C.O., (a) "Love's Old Sweet Song" (Molloy); (b) "The Blind Ploughman" (Clarke) (Zonophone Record 5078).
 Tenor solo—Derek Oldham, "Absent" (Metcalf) (H.M.V. Record B2660).
 Chorus—La Scala Chorus, "Soldiers' Chorus" (from "Faust") (Gounod) (Columbia 01032).
 Czimbalom, 'cello and harp, The Romany Trio, "Drink to Me Only With Thine Eyes" (Trdtl.) (Regal Record G20277).
 Duet—Miss Myra Sawyer and Mr. Wm. Boardman, "Come, Sing to Me" (Thompson).
 Orchestral—Columbia Symphony Orchestra, "Grand March" from "Aida" (Columbia Record 2557).
 Close down.

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

- 3.0 p.m.: Afternoon session—Gramophone recital.
 4.30: Close down.
 5.30: Children's song service conducted by Uncle David.
 6.30: Studio recital.
 7.0: Relay of service from St. James's Anglican Church, Riccarton. Preacher: Rev. R. de Lambert; Choirmaster: Mr. Maddren; Organist: Miss B. A. Bailey.
 8.15: After-church studio programme.
 Orchestral—London Symphony Orchestra, "1st Movement from the Jupiter Symphony" (Mozart) (H.M.V. Record D1359).

- 8.23: Contralto solo—Mrs. E. H. Davies, "Teach Me to Pray" (Williams).
 8.27: Orchestral—London Symphony Orchestra, "2nd Movement from the Jupiter Symphony" (Mozart) (H.M.V. Record D1360).
 8.35: Contralto and baritone duet—Mrs. E. H. Davies and Mr. John Worgan, "O Wert Thou in the Cauld Blast" (Mendelssohn).
 8.39: Grand organ solo—Marcel Dupre, "Prelude and Fugue in G Major" (Bach) (H.M.V. Record D1402).
 8.48: Baritone solo—Mr. John Wogan, "One Sweetly Solemn Thought" (Ambrose).
 8.51: Male quartet with orchestra—Peerless Quartet, "The Home Over There" (O'Kane) (Zonophone Record 5076).
 8.55: Contralto solo—Mrs. E. H. Davies, "Danny Boy" (Irish Air).
 8.59: 'Cello solo—Guilhermina Suggia, "Kol Nedrei" (Bruch) (H.M.V. Record DB1083).
 9.7: Contralto and baritone duet—Mrs. E. H. Davies and Mr. John Worgan, "I'll Sing to You" (Thompson).
 9.11: Grand organ solo—Edwin H. Lemare, "Traumerei" (Schumann) (H.M.V. Record C1455).
 9.15: Baritone solo—Mr. John Worgan, "They Say" (Warwick Evans).
 9.19: Orchestral—London Symphony Orchestra, "4th Movement from the Jupiter Symphony" (Mozart) (H.M.V. Record D1362).
 9.27: Close down.

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

- 5.30 p.m.: Children's Song Service, conducted by Big Brother Bill.
 6.30: Relay of service from St. Andrew's Street Church of Christ.
 8.0: Relay of St. Kilda Band concert. Conductor, Mr. James Dixon.
 9.15: Close down.

Our Mail Bag

Will correspondents please practice brevity, as heavy demands are now made on space. All letters must be signed and address given as proof of genuineness; noms de plume for publication are permitted. Address correspondence Editor, "Radio Record," P.O. Box 1032, Wellington.

Notes on DX.

AS I expect I am one of the "DX" hounds referred to by C. C. Bradshaw in his letter which appeared in your issue of October 20, it has occurred to me that particulars of my "log," equipment and general information may interest Mr. Bradshaw (and also "B.D."—another friend)—whose letter in support of Mr. Bradshaw's appears in this week's issue) and perhaps other listeners keen on "DX." To begin with, my "log" consists of 65 stations, particulars of which are given below, together with several others not yet identified:—

Station	Metres
1YA—Auckland	333
2YA—Wellington	420
3YA—Christchurch	306
4YA—Dunedin	463
1ZB—Auckland	275
1ZQ—Auckland	253
1XX—Auckland	218
2AX—Palmerston North	210
2ZF—Palmerston North	285
2ZK—Wanganui	500
2ZM—Gisborne	275

3ZC—Christchurch	250
4ZM—Dunedin	277.8
4ZB—Dunedin	277.8
2BL—Sydney	349
2FC—Sydney	442
2GB—Sydney	316
2UE—Sydney	293
2KY—Sydney	280
2UW—Sydney	267
3LO—Melbourne	371
3AR—Melbourne	484
3UZ—Melbourne	319
3DB—Melbourne	251.5
3BY—Melbourne	248
4QG—Brisbane	385
5CL—Adelaide	409
5KA—Adelaide	250
7ZL—Hobart	516
7UX—Tasmania (now 3UX)	200
JOAK—Tokio, Japan	345
JOHK—Sendai, Japan	390
JOIK—Sapporo, Japan	361
JOFK—Kiroshima, Japan	353
KZRM—Manila, Phillipine Is.	413
KGO—Oakland, California	384.3
KFON—Longbeach, California	241.8
KFKB—Milford, Kansas	241.8
KEX—Portland, Oregon	239.9

(now 277.6)

KMOX—St. Louis	299.8
KFI—Los Angeles	468.5
KNX—Los Angeles	336.9
KHJ—Los Angeles	388.8
KFWB—Hollywood, California	361.2
WBBM—Chicago	389.4
WDAE—Tampa, Florida	267.7
WFIW—Hopkinsville, Kentucky	260.7
WENR—Chicago and	
9XF—Chicago	288.3
2AQ—Tahape	322
4ZL—Dunedin	245
JOBK—Osaka, Japan	400
JOJK—Kumamoto, Japan	380
KGER—Longbeach, California	217.3
KFBL—Everett, Washington	223.7
WHXAL—Dayton, Ohio	428.3
5DN—Adelaide	313
KJR—Seattle, Washington	348.6
KFVD—Venice, California	208.2
JOCK—(old station) Nagoya	360
JOAK—(old station) Tokyo	375
JOBK—(old station) Osaka	385
2YK—Wellington (closed)	275
C. A. Larsen (whaler)	420
Sir. Jas. C. Ross (whaler)	?

Summarised, the list comprises:—

- 17 stations in New Zealand
- 17 stations in Australia
- 19 stations in America
- 9 stations in Japan
- 1 station in Phillipine Islands
- 2 whalers

65

I HAVE received verifications of reception from the first 49 stations given in the above list and am awaiting replies from the seven next mentioned. Of the rest, I was not able to note sufficient of the transmissions to warrant my writing for a verification, with the exception, of course, of 2YK and the whalers.

Practically all stations have been heard on the speaker. A few of the American stations had to be worked on phones, others could be heard comfortably in the next room. Some of the Japanese stations are heard at good speaker strength, while the others are very much weaker. There are quite a number of American stations which have been reported by other "fans" at different time which I have not logged, and my list includes a few which are "out of the ordinary."

I am confident that if one could spend every evening up till 7.30 p.m. "searching," his log of "Yanks" could be doubled, as I have picked up at different times quite twenty unidentified stations.

Of the Japanese stations, JOHK and JOAK can hardly be classified under the heading of "DX" as one is able to log them so frequently and so easily. It is very seldom that either one or the other station cannot be tuned in and it is not necessary to wait until very late in the evening either. I have on several occasions logged both JOHK and JOAK as early as 8.30 p.m.—on the speaker and loud enough to easily get the call letters.

My receiving set is a factory-built six-valve and dry "B" batteries are used. I think I have a good aerial and earth system. The aerial mast at the free end is 56ft. high and the mast at the lead-in end 39ft. high, the total length of aerial, including earth wire, being about 118 feet. The aerial is not really long enough for DX work, the length usually advocated being up to 150 feet. The "earth" consists of a regular "foundry," the original "earth" comprising our pipe being added to on two subsequent occasions. First I added a buried 12 gallon copper which gave greatly improved results. Later I added ten pipes on the famous

"Pierce" idea but cannot say I noticed much improvement. However, the fact that the "earth" was already a good one might account for this. I would strongly recommend those interested in DX work to make sure that they have a good earth system as I am satisfied this makes all the difference between good and poor results, and warrants as much if not more attention than the aerial.

A successful "DX"-er must possess three things (1) a good receiving set; (2) good aerial and other equipment; (3) abundance of patience. As regards the latter it is not at all unusual for one to spend the best part of an hour in the early part of the evening endeavouring to pick up some new "Yank" and then have to leave the set without having brought in anything unusual. Then again one might pick up a weak station and hang on to it for half an hour or more without being able to learn its identity. The beginner who has not logged any American stations is recommended to calibrate his set and then spend a few consecutive evenings concentrating on the most likely stations such as KFON, KGO, KEX, etc. It need hardly be added that careful tuning is essential as it is the simplest thing in the world to pass a weak signal especially from a distant station. The successful "DX"-er does not necessarily require to possess any particular skill in operating his receiving set—if this were necessary I am afraid my log would be "non est"!

The letters of verification from the different stations are (to me at any rate) very interesting especially those received from America and Japan. Most of the American stations enclose what are called EKKO stamps in verification of reception. These stamps, which are quite a work of art, bear in addition to the design the call letters of the station and the word "verification." These stamps are adhesive, it being possible to procure an album in which to place them. (As yet the number that I have, does not warrant the purchase of an album!) It is gratifying that of the 56 stations written to, in five countries, only one has failed to reply—and that station a "local."

I am not living in a particularly good locality for reception being right in town. Friends out in the country with sets similar to my own obtain better results.

Trusting that the readers who have been interested enough to wade through the foregoing have not been "left cold."—Guy C. Holmes, (Masterton).

[For the benefit of further correspondents we would say that it is our practice to delete the names of sets used (particularly factory built sets) as otherwise insidious advertising may be encouraged. This practice is en-



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dorsed by the responsible trade. Supplementary details of listeners' practices are of course valuable. In the case of other listeners sending in logs we would suggest that we are unable to afford space for unnumbered competitive lists involving duplication but where new information is available of value to others it is appreciated.—Ed.]

Special News Service.

KINDLY allow me space to record my heartfelt appreciation of the "Special News Service" inaugurated by station 2YA a month ago. Listeners in my district have favourably commented upon it, and all are unanimous in their decision that is the best service one could wish for. To have all the results of sporting fixtures, etc., put on the air promptly, has made non-listeners take notice of what they are missing. I was particularly thankful for the wonderful service rendered during the Australian racing campaign when the great Limerick and others were competing. Now we are having first class reports of the Australian-English cricket matches, and the results of the day's play nightly. The Tasman flight created intense enthusiasm, but now it is over. It is this "Special Service" that is going to hold them. Musical numbers can be heard any old time, and it is the news, sporting items, etc., that the public demand, and 2YA has risen to the occasion in great style. The person responsible knows his job and his reviews of race meetings take some beating. I would like to hear him chat about his sporting news over the air, if it is possible. Lastly allow me to congratulate 2YA on its programmes. —"One of the Satisfied."

4YA'S Quality.

A WRITER signed "Equality" in this week's "Record" makes sarcastic complaints about 4YA. He states he has a great struggle to get 4YA at 40 miles. Well, Sir, I get 4YA good on two valves with 'phones, good loudspeaker strength, on three valves and on four volume is too great. During the late football season I several Saturdays listened in to 4YA, and reception was A1. Of course I sympathise with the southern city, and hope it will not be long before they have a 500-watt station, when I expect the number of licenses will be more than doubled. Perhaps a more efficient set would give "Equality" satisfaction. I have a first-hand knowledge of wireless programmes in England and Australasia, and think the R.B. Co. of N.Z. deserve great credit for their achievements, which I consider have been very gratifying.—"Canterbury."

Static on the West Coast.

IT is quite a while since I wrote last, but reception down here during

the past month has been impossible—one continual roar of static, with the exception of a couple of nights. Tonight is perfect; hardly any static and volume is tremendous. Wellington used to be my best New Zealand station, but Auckland now tops my list for absence of fading and clarity. Wellington fades about every ten minutes, sometimes longer periods. Fades last about 30 seconds. Can this be explained? Can any reader oblige me by identifying a station about 1 degree above Wellington on the dials of my set. While waiting for the clock to strike 8 p.m. I was surprised to hear faint orchestral music. I altered the dials and the music became louder. At this moment the clock struck. My hope of logging a new station was doomed, for to-night anyway. Carry on with your A1 programme.—Radio Fan (Westport).

Who's on Morse?

I WOULD like to ask who it is that consistently works morse, interfering with Christchurch broadcast, and to suggest that measures be taken to prevent this very annoying interference. Thanking the Broadcasting Company for their very fine programmes and for the manner in which they handled the Tasman flight. I remain a very pleased listener.—Gramo-Radio (Arapuni).

Morse on Wellington's Wave.

COULD you advise me as to the following: On Tuesday, 6th, after Wellington 2YA had closed down for the night, I was turning the tuning dial of our set (three-valve), when I distinctly heard morse being sent on Wellington's wave. Noticing in the "Radio record" that various boats in port are only allowed to send messages after 2YA has closed down, I was wondering if I had picked up some boat in port (what boat, if any, was it likely to be?). After about three or four minutes the signals stopped. Congratulations to the Broadcasting Company for the wonderful service given during the Tasman flight and while the airmen were in New Zealand.—Robpuni (Puniho). [We think the data insufficient to identify.—Ed.]

Can They do Better?

I SHOULD like to express our very hearty appreciation of the many varied and interesting programmes we enjoy from 2YA. We are oftentimes filled with amazement on the criticisms on these and I think it would be a splendid scheme to invite all these grumblers to perform for one night, and then we would see if they could do better. Some of the items are beautiful. "Voices of the Bells," "Light Cavalry," and all the many

beautiful items from the Operas. Then the local items, many are real gems. To say nothing of Mr. Dug. Stark and Mr. Geo. Titchener with their large fund of humour. As for the announcers. Well, I assure you, we all appreciate their clear and pleasant voices, with no disrespect, we distinguish them as old Mr. Announcer and young Mr. Announcer—the reason being that when we got our set first the former was always on duty, and we particularly enjoyed his little "good night, by the way" motto. We get 2YA well and if it is not just clear some nights, we blame the air. Before closing I would like also to thank the company for the wonderful broadcast of the Tasman flight.—"Ngaio."

German Radio

Interesting Exhibition Attracts Much Attention

THE Olympic Radio Exhibition is not the only herald of the northern season. The Germans have organised their fifth wireless exhibition, which has earned the praises of the guests assembled in Berlin for the meeting of the International Wireless Union. Generally speaking, it was a display by the broadcasting authorities rather than by the manufacturers.

The impression of a casual visitor writing to an English wireless magazine is that although multi-valve sets were still much in evidence, there has not been the effort in this direction that there was last year. The crystal set has, of course, not disappeared. Loudspeakers were again mostly of the cone type, though horn speakers were still in evidence.

The Germans have given great attention to the problem of battery elimination, but in this are still behind the English and Americans.

That radio has become more popular can be gauged from the fact that this year's exhibition is much larger than that of previous years. Twice as much floor space as was used last year was required.

Interesting Exhibitions.

AMONG the exhibitions is one that has created more than passing interest. Two fully-equipped studios depict the progress made by the broadcasting authorities since their inauguration in 1923. They are reproductions of the old and modern studios. Near to it was an amusing little tableau of a postman emptying out of his bag a half-million or so letters received by the organisation since its foundation. All the uppermost letters, it is stated, were recognisable by their senders.

Another little pile of letters attracted great attention; it was those received from critics. Among these was one from a gentleman who asked whether they had never heard of classic music, of Wagner and Beethoven; from another who inquired when they were going to have some dance music, and from a third who applied for a loan of 2000 reichmarks (£100) for a seaside trip to restore his nerves, which were shattered by their "wretched catermanling." This exhibit was one of the minor sensations of the exhibition, and created much well-deserved amusement.

THE most interesting of the exhibits is the one including a memorial exhibition of the earlier appliances of the great German pioneer, Heinrich Hertz. The widow of the inventor visited the exhibition at the invitation of the broadcasting authorities, and a little ceremonial reception was held.

An exhibit which aroused general attention was that of the police. This is the first year they have exhibited. A large map of Germany fitted with glow lamps showed where the police have their broadcasting stations. In addition to their main 5 k.w. station in Berlin, they have twenty-five transmitting stations of 300 watts and over fifty of 25 watts. The apparatus which tunes a receiving set in the suburbs from the Police Presidency was also shown.

ANOTHER very popular feature was a speaking film, shown thrice daily. This gives in a rapid succession of speaking pictures glimpses of the widely separated and diversified towns which are the headquarters of Germany's broadcasting stations, as well as glimpses of the stations themselves, their work and their workers.

Systems of picture transmission, including that adopted by the British Broadcasting Corporation, which, incidentally, commenced picture broadcasting last week, are also shown. Altogether 370 firms exhibited at the show.

IMPROVEMENT in the naval communication system is indicated by the fact that the average time of messages between the Philippines has been reduced to one hour and fourteen minutes in May, 1928, as compared with seven hours and five minutes, the average obtaining in June, 1926.

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SHOP EARLY.

Crystal and Amplifier to Operate from A.C. Mains

By "Pentode"

IN glancing down the list of "what is wanted" one will be sure to run across an amplifier that will derive its A and B power from the mains. To the constructor or purchaser of shop-made apparatus, who possesses a radio set purely for the musical entertainment derived, the various batteries, etc., that form a necessary part of the equipment, are an endless expense and worry. Having made an "all from the mains" crystal set and amplifier, the writer considered it of sufficient interest to describe in these columns. Excellent results have been had with one built up as here described. The volume is quite sufficient for general domestic use. During a lull in the programme, just a suspicion of a hum is noticed, but not enough to produce any discomfort.

All that is necessary at the beginning of a programme is to switch on the electric light or power. There are no accumulators to charge, no batteries that run down in six months, and if a valve ever does burn out, the amplifier and rectifier are adapted to take two ordinary three electrode valves, and not the expensive A.C. valves. Particulars are given for designing the transformer for either two, four, or six-volt valves, or tapplings can be made to adapt the whole to either voltage. Appended is a list of the components necessary, with their approximate cost.

THE most ticklish job is the transformer for stepping down the voltage from the mains, and this will be described first. The one mentioned is designed for the 230 and 50 cycle power. Although by following the directions given it is quite simple to construct it, so that either 110 or 230 volts can be used for the input.

By applying to a sheet metal worker, about 60 pieces of black iron, not more than 1-64 inch in thickness, can be cut to a size 5½ in. x 3 1-8 in. If difficulty is experienced in obtaining the sheet iron of this thickness, kerosene tins can be cut into rectangles of this size to form a pile 1½ inches high. More pieces will be required as the tin is much thinner than the black iron. Out of the middle of each piece a window is cut 3 inches long by 5-8 inch wide. The best way to do this is to cut a piece of thin cardboard the size of the oblong with the window cut out according to the size given.

This can be placed over each individual piece of iron, and with a sharp file point a scratch can be made on the iron underneath to indicate the correct size. Each piece has now to be cut in two pieces along the dotted line. If the two halves are numbered with white chalk, 1-1, 2-2, and so on, they can be assembled in pairs, however irregularly the dividing line has been cut.

With a sharp pair of snips cut along the two sides of the window of each half, and by bending down, as shown, the ends can be cut out quite neatly. This is rather a tedious job, but it should not be hurried, or when assembling it will be found that the separate laminations will not fit evenly inside the coil. The pieces should,

when piled up and pressed together, form a heap 1½ inches high. The bend which has been made to cut out the ends of the windows, should be hammered flat on a flat surface.

Now give each side of each individual piece a liberal coating of shellac varnish. Shellac is easily obtainable from the chem-

average will be 200 turns per layer and 15 layers will be required. Do not wind right close up to the face of each end or the pressure will tend to bend the end pieces outwards and the lower layers will fall down.

For those constructors who desire to work off the 110-volt mains, the wire should be cut half way at the 1250th

8 inches will be enough to leave and this should be tucked out of the way during the process of winding.

It will be thought that the voltage available will be about 200, but after the resistance of the wire and the voltage drop across rectifying valve and smoothing choke the direct current available will be about 150 volts. Between each layer is wound a layer of paper which can be obtained cut into strips 2½ in. wide, from most printing works.

Care should be taken to see that none of the leads are brought out at the ends of the spools, where the laminated core will cover. It is perhaps advisable to mark in pencil beforehand two lines running from the 1½ in. centre to the same side at each end. Wrap more empire cloth and paper round the secondary winding and proceed to put on the filament winding.

Preparing for the Valve.

FOR the amplifying valve no centre tap will be required, so that the following table should be consulted for the number of turns for any special valve used:—

2 volt valve, 23 turns, 22 D.C.C. S.W.A.
4 volt valve, 46 turns, 22 D.C.C. S.W.A.
6 volt valve, 72 turns, 22 D.C.C. S.W.C.

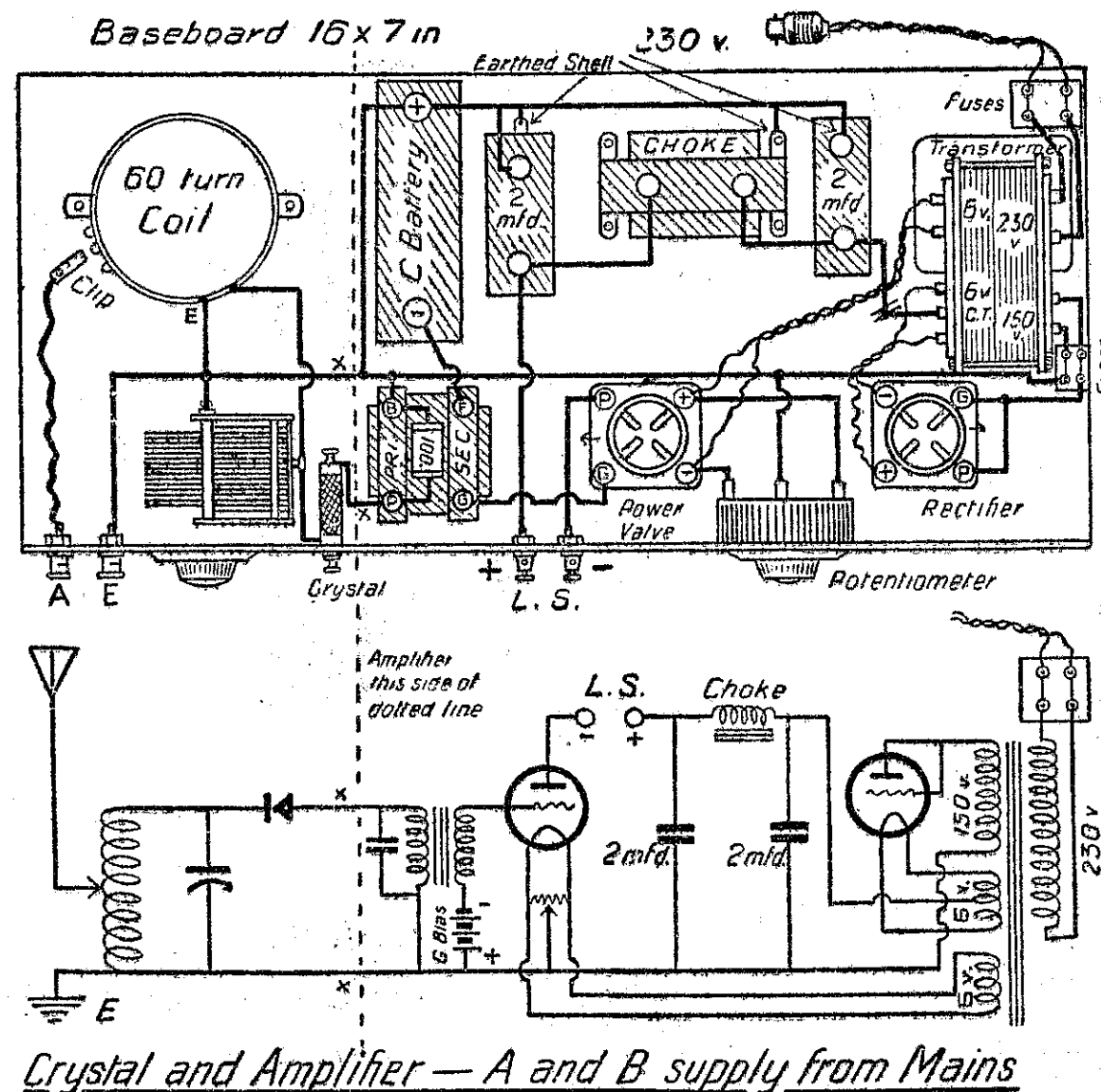
It will perhaps be noticed that the ratio is apparently not quite correct. Two or four volt valves usually consume .1 amperes, while the 6 volt class consume usually .25 amp. The resistance of the wire increases with more current flowing, so that if 6 volt valves taking either .06 or .1 amp. are used, then a few less turns will be required. Sixty-eight turns should be enough when the valve is used without a rheostat.

The rectifier valve filaments are next and as they are at a high potential with regard to the amplifying valve filament winding, they must be thoroughly insulated therefrom—a layer or two of empire cloth and in this case a coating of shellac, which is allowed to dry before winding on the next layer. It will have to be known beforehand which valve is being used for rectifying, whether 2, 4 or 6 volts filament. The number of turns and method of winding is the same as for the previous filament winding except that in this case there is a centre tap brought out. When half the number of turns have been wound on make a loop of wire, pass it through a hole in the nearest spool end, and continue in the same direction for the remaining half. Round the whole spool wrap two layers of empire cloth and stick the overlap with a touch of seccotine.

Assembly.

DISMANTLE from the jig and tap out the wooden spindle. The whole is now ready for assembly. Sort out the laminations with their correct halves, and start to slide inside the coil. The lamination cuts are staggered. That is, the cut is first at one side, then at the other, forming an overlap, and when all the pieces have been fixed in, the whole will be found to be firm.

Wooden clamps 4½ inches long, drilled 3½ inch centres for brass bolts, 2 inches long, are used, for clamping all the



ist or hardware store. Dissolve in methylated spirits, apply, and allow to dry. The chalked numbers show through the shellac, and should be distinguishable ready for assembling.

Winding the Transformer.

NEXT comes the windings. A piece of wood just over 1½ inches square is cut to a sufficient length over 3 inches to fit in the winding jig. The spool ends are 2½ inches square, with a hole cut in the centre 1.3 inches square to make a tight fit over the square, spindle round which four or five layers of brown paper have been wound. The distance between the two outside ends is three inches, and if the spool ends have been cut out of 1-8 inch fibre, the distance inside will be 2½ inches. All the joints are given a liberal coating of seccotine, and allowed to dry.

Do not warm to dry as the ends are liable to warp and twist so that difficulty may be experienced in getting the layers of wire on evenly. The primary winding consists of 2500 turns of 32's s.w.g. enamelled wire. An

turn and the lead brought out at the side. Then begin again and wind on another 1250 turns, so that the primary is divided into two distinct halves with separate leads brought out from each half. As soon as a layer has been wound on a strip of paper cut 2½ in. wide should be wound round the spool ready for the next layer. Do not use shellac on enamelled wire as the spirits will dissolve the enamel and destroy the insulation. The leads are brought out through holes in the ends of the spool and about 8 inches of wire left for connection to the terminal strip.

When the primary has been wound on a layer of empire cloth and another layer of paper is bound round ready to take the secondary winding, which consists of 2100 turns of 36's s.w.g. enamelled wire. Averaging 300 turns per layer, the correct number of turns can be got by winding on seven layers. With this extremely fine wire, a piece of thicker wire, say 28 D.C.C., is soldered on to the beginning and end to bring out for connecting to the strip at the top. About

laminations firm. These are hardwood strips, 1 inch x 3-8 inch thick (oak is suitable). By referring to the diagram it will be seen clearly how these are assembled. Two small brackets can be screwed on the bottom wooden strips to fix the transformer to the baseboard. On the sides of the two clamps at the top, two ebonite terminal strips are screwed. On one side, half an inch from the top, four terminals are arranged in two sets of two. The sets over the coil are arranged for the mains supply, while the other two are for the high voltage secondary. On the other side, five terminals are arranged—a set of two over the coil, and a set of three opposite the high voltage terminals on the other side. Lengths of spaghetti insulated sleeving can be used to join the leads to their respective terminals. The group of three goes to the filament windings for the rectifying valve next the middle terminal for the centre tap. The remaining two on the same strip are joined to the two leads from the ampli-

is on 110 volts, and is expecting to be changed to the 230v supply, the directions should be copied out, and kept safely for future reference. For 110 supply. Join terminals one to three, and two to four. Supply leads join to one and four. In other words, join the two "ins" together, and the two "outs" together, so that the two coils are in parallel.

For the 230 volts supply, join the two centre terminals together, and the two outside ones to the mains. In this case, the two halves of the coil are in series.

The Choke.

THIS finishes the description of the power transformer. In the list of components, a low frequency choke is mentioned. If the reader wishes to construct this himself, an excellent one can be made out of the laminations of a burnt-out transformer. If the secondary is intact, this can be used, although the extremely fine wire, generally 46's, is liable to break down

tively prevent any stray magnetic fields.

Assembly.

IN the diagram, a dotted line is shown separating the crystal set from the amplifier. No doubt, some readers will have crystal sets already and only wish to make up the amplifying portion. In this case, the crystal set can be omitted, and a small terminal block made for the two leads that cross the line. If this is done, always try reversing the leads from the crystal set, as it will be seen that one terminal of the transformer primary is earthed. Although it does not run directly to earth, the secondary winding of the power transformer has a capacity to the primary, which is earthed via the mains. The space occupied by the crystal portion is about five inches, so that the baseboard will have to be 11 inches x 7 inches, if the set is omitted.

A baseboard, 16 inches x 7 inches is planed, and two small strips fixed at

each end underneath. These need only be about 1 inch x 1/4-inch, so that it lifts the base a little, so that the filament wiring can be done underneath. The panel, either three-ply, varnished, or ebonite, is 7 inches high x 11 inches long. The diagram shows the plan, and an idea of the disposition of the parts is easily obtained. The variable condenser is fastened to the left of the panel, with two terminals, aerial, and earth at the bottom. Output speaker terminals are arranged on the same level as the aerial and earth terminals. Between the condenser and the speaker terminals is mounted the semi-permanent detector, with the adjusting knob on the front panel. A 200 or 400 ohm potentiometer fixed in the position shown, finishes the panel drilling.

It will be noticed on the right-hand side a small fuse block is arranged for the two main leads and the high voltage secondary leads. Two ebonite blocks about 1 1/2 in. square are drilled

Components to be Used for Crystal and Amplifier.

	£	s.	d.
1 lb. 32 s. S.W.G. Enamelled Wire	0	6	0
1 lb. 36 s. S.W.G. Enamelled Wire	0	8	0
1/4 lb. 22 S.W.G., D.C.C. Wire	0	3	0
2 Condensers, 2 m.f.d. each	0	18	0
2 Valves	1	7	0
2 Valve Holders	0	5	0
1 Choke, L.F.	0	15	0
1 Transformer, Ratio 1—5	0	17	6
Black Iron (sufficient quantity)	0	2	6
Crystal Detector	0	3	6
4 inch Length Ebonite Tube, 3 inch dia.	0	2	8
Variable Condenser, .0005 m.f.d.	0	7	6
Potentiometer	0	2	6
Fixed Condenser, .001 m.f.d.	0	2	6
Baseboard, 16in. x 7in. x 1/2 in.			
Panel (Wood or Ebonite).			
Terminals, Insulated Sleeving, etc.			

ifying valve filament. In the case of the split primary, four terminals instead of two are placed on the side of the mains input, the two centre ones being the end of first half and beginning of the second half.

Starting from one end, the four terminals are arranged thus—"In" of first half, "Out" of first half, "In" of second half, "Out" of second half. Care should be exercised in arranging these correctly, otherwise, if a mistake is made, the primary winding is liable to be burnt out when the current is switched on. Here are the instructions for using with either voltage. If a reader

after a few weeks' use. After dismantling the old transformer, a bobbin can be made to fit in the place of the old windings. This can then be mounted in the winding jig, a geared hand-brace makes an excellent jig for this job, and the bobbin filled with 38SWE enamelled wire. Flexible leads are taken out from the beginning and end of the winding. The wire is just run on without paper to separate the layers. Ideas will, no doubt, occur to the constructor for arranging a terminal strip for the two leads, and if the transformer had a metal shroud before, this can be put on again to effec-

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for four small terminals. To the clamping nuts underneath are attached the flex leads from the mains, and on the other side the two wires from the input terminals of the transformer. Strips of tinfoil 1-16in. wide are cut, and when fastened between the terminals on the fuse block provide a safeguard in the event of a temporary short.

A similar fuse is provided for the high voltage secondary, and this effectively prevents any damage to the wire in the transformer if the secondary circuit is shorted.

NEXT to the power transformer is screened a 2 m.f.d. condenser. Then the choke is screwed into place with the direction of the laminations at right angles to those of the power transformer. The other 2 m.f.d. is fixed next to two clips to hold the C battery. It was considered advisable to use an independent C battery in this case, as the cost is very small and, as little current is used, the upkeep of this battery is negligible. A new C battery will generally last about twelve months or more, so it hardly warrants the cost of the extra resistances and condensers that are necessary if the C potential is required from the mains also.

The positions of the two valve sockets and intervalve transformer is shown in the diagram.

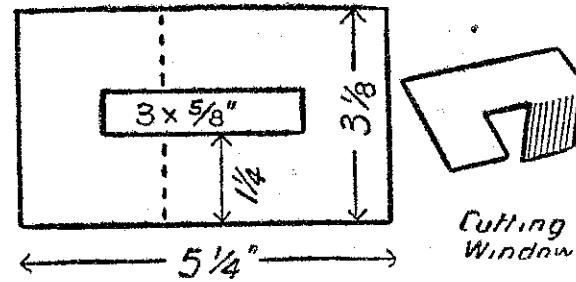
In selecting a transformer one should be chosen with a high ratio between primary and secondary to be able to get as much step-up voltage as possible. A .001 m.f.d. fixed condenser across the primary prevents any choking effect the iron cored coil in the transformer may have. In the amount of 22 D.C.C. gauge wire specified, allowance was made for the winding of the tuning coil. Sixty turns should be wound round the 3in. ebonite former and tappings brought out at the tenth, twenty-fifth, and fortieth turns for connections to the spring clip from the aerial terminal.

Wiring.

ALL the filament wiring can be done underneath the baseboard. From the transformer to the valve sockets

twin flex wire is used, as this prevents to a great extent the field produced when raw A.C. is used in a receiver. The remaining wires are number 18 tinned copper, covered with lengths of insulated sleeving.

Here is a point-to-point connecting scheme. Join by twin flex the two filament winding terminals to the plants of the first valve holder. Carry these wires to the two outside terminals of the potentiometer. Join by twin flex the outside terminals of the tapped filament winding on the transformer to the filament terminals on the second valve socket. Of the same valve holder join the grid and plate together, and



connect to one side of fuse block. The opposite terminal of fuse block goes to one of the high voltage secondary terminals on transformer, the adjacent terminal to third fuse terminal, and the remaining terminal of fuse joins to the following points. Centre of potentiometer, C battery plus, one terminal of each of the two smoothing condensers, the cases and shells of the various components used, the primary of intervalve transformer, the one end of tuning coil, and moving plates of condenser, finally to the earth terminal. Sleeving should be slipped on all lengths where cross wires are likely to occur.

The third end of coil joins to fixed plates of condenser, and to one end of the detector, to the opposite end of detector to free terminal on primary of transformer. The secondary transformer marked G joins to grid of first valve holder. The terminal marked F—on this transformer joins to negative of C battery, and the centre tap filament winding to first terminal on smoothing condenser, and also to one

end of choke. Join the other end of choke to next condenser, and carry lead on to the output loudspeaker terminal on the front panel.

The other speaker terminal joins to the plate terminal or lug on amplifying valve socket.

Lastly, connect up the mains winding to the fuse block provided, and also to the flex for the lamp socket adapter.

Trying Out.

THIS finishes the wiring, and all that remains is to wait for the local station to start operations to give the set a try out. A loud hum will no doubt greet the constructor when first the set is turned on. Turn the potentiometer until the hum disappears altogether or dies away to almost inaudibility. The crystal set operates in the usual way, and if the detector is of the semi-permanent type, do not twist round the knob until you have first lifted the crystal from the face of the other one inside the detector tube.

It has been found that a radio frequency choke inserted in the lead between the centre tap on power transformer, and first smoothing condenser, will make the rectifier more efficient and further prevent any possibilities of any hum. This can be of the slot wound type, with about 1000 turns of 36 enamelled wound in a slot made by sticking two 2in. cardboard circles on a half-inch circle of wood or cork. The slot may be about 1/4-inch wide, and the wire just run in jumble fashion. The two ends can then be brought out to soldering lugs, and the choke inserted where indicated.

Tips and Jottings

A Screen Grid Mystery.

THERE have been cases in America where a new screen-grid valve has appeared to be "dead," and experts have been greatly puzzled. It appears that sometimes the small metal cap at the top is liberally coated with

lacquer, and not until this is scraped off can good contact be made with the clip.

Eliminator Precaution.

WHEN using an A.C. battery eliminator, always turn off the H.T. before the low tension or filament supply, and turn the low tension on before the high tension, so as to avoid excessive stress being set up across the smoothing condensers.

Concerning Push-Pull.

A CORRESPONDENT, A. Webb (Auckland), writes: "I contemplate constructing the push-pull amplifier described in 'Radio Record,' of November 2, and I would like to know the following: Would it be in order to use an amperite in place of the six ohm rheostat? If so would the one amperite do for all three valves, or is it necessary to use a separate one for each valve? In the event of using this method of filament control, would I need a volume control, if so, what would you advise?"

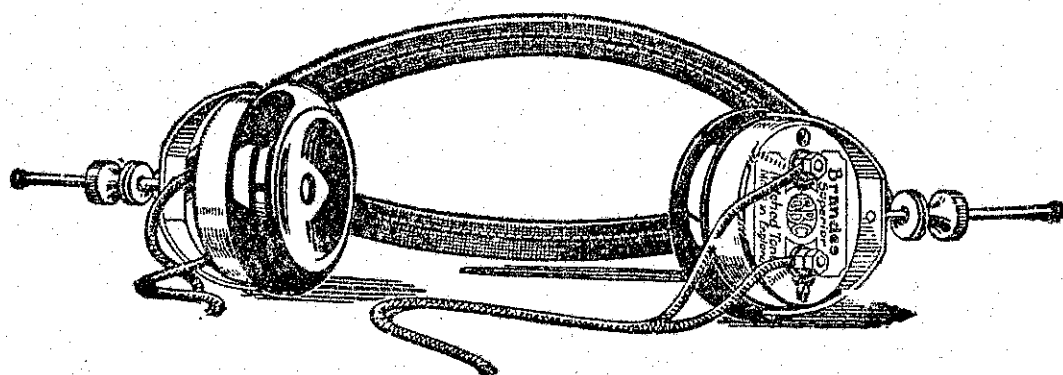
It depends to a great extent on the valve to be used. If all the valves were of the 6 volt. 1 amp type, then a 1/2 amp amperite could be used to control the three valves. If the valves consumed .25 amp each, then the amperite would not stand up to this work. An amperite is generally designed to control the current for one valve only, which is specified on the container. In this case it would perhaps be advisable to know the type of valves to be used and apply for three amperites for these particular valves.

Regarding volume control.—If you desire to use a gramophone pick-up, a volume control is supplied. If a crystal receiver, the best way to do this is to incorporate a variable condenser in the aerial lead and use this in preference to detuning the set.—"Pen-tode."

A neat and sliding revolution counter is available to constructors at 12s. 6d., plus postage, from George Henry and Company, Ltd., engineers, Christchurch. This would be handy to constructors in the making of coils, etc.

Brandes

The Name to know in Radio



Made in England
Price 15/-

OBTAINABLE FROM ALL RADIO DEALERS or
INTERNATIONAL RADIO Co. Ltd., Ford Bldgs., Wellington

STOP! Look out for

The unnecessary expense in feeding

HUNGRY VALVES

Valves which quickly run down your "B" Batteries. Use valves which give TONE and POWER, but are ECONOMICAL.

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"Where the QUALITY Goods are Sold"

Minimising Flood Dangers

Prompt Work by 2ZF Saves Settlers

THE recent heavy rains, and the consequent floods upon the flat country in the Wellington province, have caused a great deal of anxiety, and in some cases, heavy loss to farmers. In the Manawatu basin, the floods are usually severe, and generally occasion great losses. In some cases, roads are blocked by several feet of water. The rivers rise rapidly, and, unless the farmers are quickly warned, they suffer loss.

During the recent rain, the Manawatu River commenced to rise at an alarming rate. The Radio Society rose to the occasion. Hurriedly getting permission from the telegraph engineer, the officials put the station on the air, and at 7.30 p.m. the first warning of the impending danger was broadcast.

For an hour, this station sent out continuously. Reports were collected from various up-river points, so that a forecast was able to be issued. These gave the indication that the river was still likely to rise. In consequence, a message was broadcast, together with a report on the state of the river locally.

These warning messages were picked up, and several anxious farmers in Foxton and other outlying districts stated that they quickly spread the news to those vitally interested.

2ZF then went off the air for a brief three-quarters of an hour, in order to collect further data, at 9.30 p.m., the full seriousness of the flood was put out to listeners, together with the latest reports and indications.

This was a great service to the farmer, and, no doubt, the promptitude and initiative of 2ZF saved the pockets of many, and the lives of some stock.

THIS station is proving very popular with local residents, and the Manawatu Radio Club is growing rapidly. The membership figures published last week were those representing the position a few months back, but they do not represent the position now. As stated by a letter from the secretary, Mr. I. N. Leet, the membership stands to-day, or rather stood on November 3, at 389 financial members. This is a fitting reward for the enterprise of the club.

The station has been received at loudspeaker volume in several Australian States, and in the Cook Islands. The reports state that the music is very clear, and the transmission generally steady. The power on these occasions, has been 50 watts.

During the last few months, many relays have been put over the air, with great success. 2ZF claims to be the first station to rebroadcast short-wave transmission from PCJJ, 2XAF, 2XAD, 2XAG, and the long-wave transmission from KOA, a station rarely heard in New Zealand.

The two-way telephony tests were put on the air twice during the last month.

For these relays, two purposes are claimed—to allow their listeners to hear foreign programmes, and to try and improve the technique of rebroadcast. In this latter respect, improvements have already been effected.

For the Manawatu district, 2ZF is becoming quite a feature, trying, as it does, to minister to local needs, and it looks for, and merits, the support of those who benefit from its existence. Judging by the way its membership is increasing, this is to some measure being realised.

Two-Way Talk

America and Australia

MR. T. A. DOBSON (Denniston) supplies the following interesting report on the telephone talk between America and Australia.

I AM sending you a report of the talk which took place between W2XAF, U.S.A. and 2ME, Australia, on Friday, October 27. The air was hot and heavy on the high waves so I thought I would try the short, there being very little static on these bands. Time was about 11.15 p.m. N.Z. S. time, tuned W2XAF (2XAF has put a W in the front of its call also 2XAD). "This is Mr. Rice speaking. Hullo, Australia. Hullo, Sydney, it is a bright morning in Schenectady. The Mayor of Schenectady, Mr. Pagle, will say a few words to you. Mr. Gerber of the United Press (U.S.A.) then spoke to Mr. McDonald, 2ME (Australia) and gave greetings to Mr. W. G. Connelly, of the "Sydney Morning Herald." Mr. Russell Haselway, of the Associated Press (U.S.A.), also spoke to Roy Myers (Australia). At this stage, Mrs. McDonald took up the speaking from Australia. This lady was asked if she could pronounce Schenectady which she did. The Yank

laughed and said, "Very good Mrs. McDonald. Do you know the meaning of Schenectady? Well it is an Indian word which means 'River flowing, or valley beyond the pines.' The time here is about 7 a.m., U.S.A."

U.S.A.—Mr. (name missed by smack of static) sends greetings to Miss Mary X—, Mr. W. A. Doyle Mr. and Mrs. McNeil, Sydney.

U.S.A.—Mr. Dudley Hill to Mr. McDonald (Aus.): "What about giving us a little bit of your spring for some of our summer?"

U.S.A.—Mr. Walter Main, "Evening Star," Schenectady: "What about sending me a kangaroo?"

U.S.A.—Mr. J. F. Allenpay: "We have just had our morning cup of coffee, Mr. McDonald."

U.S.A.—Mr. W. B. Potter (railway engineer), will now say a few words to you, Mr. McDonald—"Greetings from sunrise to sunset. I would sooner have a Wallaby. Greeting to Mr. Juiler and Mr. Harold Clapp."

This was the finish of the speakers, but W2XAF kept on waiting for Java to come in, but 2ME advised that he was not too good. So W2XAF closed down.

I then tuned 2ME, who began to talk to Java A.N.E., but Java was coming in badly, having a bit of trouble. I heard him say to (Mr. McDonald, 2ME) that he was going to speak to Vienna. Looking up Mr. F. W. Sellens' short-

wave list, as you have in the "N.Z. Record" on September 28, I notice that Vienna has stations OHK2, wave-length 70 E.A.T.H. 37, and two others with no call sign down, one at 44.4 metres, and the other at 22.2 metres. The Java station ANE is on 15.98 metres, but the Vienna station that I got was not (as it seemed to me) any more than about 18 metres. I heard Java and Vienna talking for about ½ hour, but Vienna was hard to understand—broken English, very much smashed. I could make out, "Hullo Bandoeng, Hullo Bandoeng," and "Dr.—will speak." Time would be about 1.30 a.m., Saturday, October, N.Z. S. Time. Also I had 5SW on for about half an hour before I tuned Vienna in great volume. I would like to ask Mr. Sellens, does he notice a

high-toned note beat about six times when 5SW is changing over to London? It seems to be a signal of some kind. I also heard 2HC, New South Wales testing. Good strength, but fading bad.

I have received six continents in one day's tuning: America, A9, Java R3, Vienna R4, London R5, Holland R3, and Australia R9, all on loudspeaker.

TWO American stations regularly broadcast "still" pictures, while four are experimenting with television. The transmission of picture "stills" has reached a fine art. As a specimen of a commercial telephoto-graph transmission an American journal depicts a police identification card showing a fingerprint.

RADIO DIRECTORY

What to Buy and Where

AUCKLAND

- | | |
|--|--|
| ALTONA & HAMMARLUND. | Johns, Ltd. |
| ROBERTS SETS. | Chancery Street, Auckland. |
| ATWATER-KENT RADIO | Frank Wiseman, Ltd. |
| | 170-172 Queen Street, Auckland. |
| BREMER-TULLY RADIO | Superadio, Ltd., |
| | 147 Queen Street, Auckland. |
| BURGESS RADIO BATTERIES, | All Radio Dealers. |
| FEDERAL, MOHAWK, GLOBE | Federal Radio House, |
| | 8 Darby Street, Auckland. |
| FERRANTI RADIO COM-PONENTS | A. D. Riley and Co., Ltd. |
| | Anzac Ave., Auckland, and all leading dealers. |
| GREBE RADIO | Howie's, |
| | Dilworth Building, Custom st., Auckland. |
| MULLARD VALVES | All Radio Dealers. |
| PREST-O-LITE. Car and Radio Battery Service | L. J. Purdie & Co., Ltd. |
| | 97 Dixon Street, Wellington. |
| RADIOLA RECEIVERS and Expert Radiola Service. | Farmers' Trading Co., Ltd., |
| | Holjson Street, Auckland. |
| T.C.C. CONDENSERS | A. D. Riley and Co., Ltd. |
| | Anzac Ave., Auckland, and all leading dealers. |

COUNTRY TOWNS

- | | |
|--|--|
| ANCHORADIO, BREMER-TULLY, RADIOLA, BROWNING-DRAKE, AND ATWATER-KENT RADIO | Radio House, |
| | Hamilton. W. S. Anchor, Manager. |
| BROWNING-DRAKE SALES AND SERVICE | J. H. Sinclair, |
| | Otane, H.B. |
| CROSLEY ELECTRICAL AND BATTERY MODELS | The Forrest-Crosley Radio Co., Ltd. |
| | Cuba Street, Palmerston North. |
| GREBE, CROSLEY AND RADIOLA SERVICE | E. Dixon and Co., Ltd., |
| | Hawera. |
| RADIOLA DEALER AND SERVICE | G. C. Carrad. |
| | 140 The Avenue, Wanganui. |
| PHILIPS VALVES AND APPARATUS | All Good Radio Dealers. |

LATELY reception from Australia has been exceptionally varying in volume. Some nights the Aussies romp in, and on others they are little more than a whisper. Beginners may feel disappointed with the fluctuation in Australian reception, but the equinoxes are as a rule associated with the present varying conditions in long-distance broadcast reception.

A LETTER to station KGO, Oakland, California, tells of a lonely mountaineer who was pruning the squawks out of his loudspeaker for the church service from that general electric station, when two runaway boys stumbled into his cabin to take refuge from a freak storm raging in the Rocky Mountains. "While preparing something to eat," he writes, "I wondered how I could induce them to go back home. Suddenly the voice of Rev. George W. Phillips came through, praying for mothers whose sons had left the home hearth and had deserted them. After the boys had listened to the prayer over KGO I had no difficulty in setting them right."

WELLINGTON listeners have not stampeded towards short-wave reception mainly because there is very little short-wave entertainment to be obtained in the evening, which is the most popular time for broadcast listening. One of the few short-wave stations available in the evenings is RFM, Khabarovsk, Siberia. An American listener states: "I have a verification

Notes and Comments

By "Switch"

Its call letters are RFM and not RFN, card from RFM dated May 26, 1928, and its wave length 70 metres. The regular transmissions are as follow:—Monday, Tuesday, Thursday, Friday, and Saturday, 11.00 G.M.T. (Sunday, 09.00 G.M.T.) and Wednesday silent." In the first case one has to tune in as late as 11 p.m. New Zealand time, excepting on Sundays, when RFM commences at 9 p.m.

THE American station 9XF, heard by several New Zealand listeners, is owned by the Great Lakes Broadcasting Company. The studios are in the Straus Building, 310 South Michigan Avenue, Chicago, Illinois. The station is located on a 40-acre farm, 22 miles south-west of Chicago. The equipment consists of a 50,000 watt crystal-controlled transmitter, built by the General Electric Company and housed in a two-story brick building. The towers are 300 feet high, and spaced 700 feet apart. This station operates on 288.3 metres, and will replace stations WENR and WBCN, owned by the same company.

3YA, CHRISTCHURCH, has given pleasure to us Wellingtonians who have been privileged to be able to listen in during the description of

the Christchurch racing week. Apart from the prompt details of the racing, the musical items by 3YA were thoroughly attractive. In broad daylight there is no fading of 3YA as heard in Wellington, audibility being absolutely constant. The pleasure derived from listening to these programmes from 3YA, Christchurch, has been mentioned to the writer by many listeners, including several ladies.

THE Australian stations have been received very indifferently in Wellington of late, and on many evenings they have not been worth pursuing until after 11.30 p.m., New Zealand time. We have experienced this trouble during previous years just when summer is arriving. Strange to relate, on several evenings when the Australian stations have been particularly weak the Japanese have come in fairly well, particularly so JOHK, on a wavelength just below that of 4QG, Brisbane.

MR. J. H. OWEN (ex-president of the Wellington Radio Society), who is on a visit to England, has forwarded a copy of "Television," the official organ of the Television Society of Great Britain. This magazine is described as "the world's first television journal." The paper, which is extensively illustrated, contains many technical articles on television, but it is too apparent that the new science is very much in its swaddling clothes. So far television has not justified any hope that it will become very popular for several years. Some technicians have gone so far as to state that the present systems of television are up against a dead end, and they should be scrapped so that inventors could direct their endeavours along different lines.

BY the way, the many friends of Mr. Owen, ex-president of the Wellington Radio Society, will learn with pleasure that the stork has visited the Owen temporary domicile, in England. Congratulations have gone forth by the last mail.

A Wellington radio trader has just landed a consignment of gramophone electric pick-ups, specially constructed for use in all-electric a.c. sets. The valve plug has five prongs, instead of the usual four prongs, the a.c. detector valve having five prongs. The line is attracting notice among owners of a.c. sets.

LAST Thursday evening, on the occasion of the address in the Town Hall, at Wellington, by the Prime Minister, a public address loudspeaker system was used, with loudspeakers located all round the outside of the hall, so that the crowds who were unable to obtain admission could listen outside in the streets. When the

grand organ was played, the music issuing from the loudspeakers was distinctly audible 200 yards away. Mr. Coates's words rang clear and loud, also, during his address.

WELLINGTON listeners who operate short-wave sets, should be alert for a special broadcast on 31.5 metres, from the whaling steamer, "Nielsen Alonso," shortly, whilst down in the Antarctic waters, when Sir George Wilkins goes aboard the vessel in the Ross Sea, for supplies. Sir George will broadcast a talk upon his experiences. Special plant has been placed on board the vessel for this short-wave broadcast. Sir George's address is to be picked up and rebroadcast by 3LO, Melbourne, 7ZL, Hobart, and 5CL, Adelaide.

A WELLINGTON listener showed me a bright scheme he had planned to run his aerial across his street, which is a small "blind" affair on the outskirts of the city. He was keenly disappointed when informed that it is illegal to elevate an aerial across a public street even if it is "blind." It is also illegal to run an aerial over any electric light or power lines. These regulations were very wisely adopted, and are now practically universal.

WHATEVER may be said against 4YA, Dunedin, the fact remains that this station is regularly heard from scores of loud-speakers in Wellington on Wednesday nights when 2YA, Wellington, is silent. The proximity of the wave-lengths of 4YA and 2YA causes the latter to blot out the former when the Wellington station is on the air.

A WELLINGTON listener who is endeavouring to construct his own electro-dynamic loud-speaker, has come under the notice of "Switch." The said listener has planned to build the speaker throughout even to making the coils for the magnet, not to mention the diaphragm. The writer warns those who set about with this intention that unless possessed of exceptional skill and instructional details their endeavours will not be successful. The better plan is to purchase the loud-speaker unit—magnet, coils, diaphragm, etc.—now available in Wellington.

THE approaching Christmas, the season for gifts, will mean a substantial addition to the number of listeners. The popularity of the humble crystal set, owing to its handiness for the average boy, and its inexpensiveness, will create a wave of interest in the elementary aspects of aerial and earth installations. As many juniors will also be building their own crystal sets during the forthcoming vacations, the Wellington Society could not do better than include a lecturette of about three-quarters of an hour on "Crystal sets, aerials and earths," at its next general meeting. The writer has in his mind a gentleman who would draw a crowded house if he were advertised as the lecturer.

BRITAIN'S BEST BATTERIES

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Radio,
Ignition,
Torch.



The "ADICO"

Will outlast any other battery.
Specially made for New Zealand requirements.

SOLE NEW ZEALAND AGENTS;

LEVIN & CO., LTD.

[Lister Department.]

P.O. BOX 1496

WELLINGTON.

Mullard
THE MASTER VALVE

Embodies all improvements
known to Valve Manufacturers.

£50 Prize Competition for Estimating Popularity of Radio Items

(See article on front page for dates of Competition from various stations and details of the competition.)

CONDITIONS OF COMPETITION

1. Competitors are requested to use printed coupons, but entries will be accepted if a form similar to the coupon be followed.
2. Competitors must award marks to each item. The lowest number of marks will be 50—the highest 99. (These marks should be given for the amount of pleasure derived from the performance, irrespective of any other consideration.)
3. In the last column of the coupon competitors must arrange the index number of the items in their order of popularity.
4. The competitor whose list contains the largest number of items in correct order of popularity will be judged the winner.
5. The winning order will be obtained by popular vote (the marks awarded to each item will be added together and divided by the number of entrants).
6. In the event of a tie, the prize will be awarded to the competitor whose marks most nearly correspond with the general average marks.
7. Coupons marked "Competition" must be forwarded to P.O. Box 1079, Christchurch, and must be received not later than Wednesday, November 28, at 10 a.m.

(CUT OUT HERE.)

Name

Address

Station Listened to V.A.

Coupon for £50 Columbia Gramophone Radio Competition

Item No.	NAME OF ITEM.	Marks. 50-99.	Item numbers in order of popularity.
1	Symphony Orchestra—"Poet and Peasant"	.....	.....
2	Comic Opera (vocal—"Memories" (from "The Student Prince.")	.....	.....
3	Piano Solo—"Liebestraume."	.....	.....
4	Grand Opera (vocal)—"Credo" (from "Otello.")	.....	.....
5	Saxophone Solo—"Valse Mazanetta."	.....	.....
6	Song (comic)—"I'm 94 To-day."	.....	.....
7	Light Orchestra—"March of the Toys."	.....	.....
8	Song (soprano) with flute obbligato—"I've Seen the Swallows Pass."	.....	.....
9	Orchestra and Chorus—"In a Persian Market."	.....	.....
10	Violin Solo—"Hungarian Dance, No. 1."	.....	.....
11	Song (baritone)—"Slumber On, My Little Gypsy Sweetheart."	.....	.....
12	Hawaiian Marimba Orchestra—"Three O'Clock in the Morning."	.....	.....
13	Grand Opera (solo)—"Largo al Factotum" (from "The Barber of Seville.")	.....	.....
14	Comic Opera (orchestra)—Selection from "The Gondoliers."	.....	.....
15	Revue (duet)—Gems from "Oh! Kay."	.....	.....
16	Jazz Orchestra—"Get Out and Get Under the Moon."	.....	.....
17	Military Band—"Martial Moments."	.....	.....

Byrd Expedition Calls.

COMMANDER BYRD'S ship, the City of New York, has been assigned the call WFBT, while its auxiliary portable transmitted is WFA. Smaller portables are KFK, 50 watts; WFD, 50 watts; and WFE, 7½ watts. The aeroplane Fairchild has the call WFS and the Floyd Bennett WFB.

In addition to the ship frequencies between 300 and 800 metres, the Byrd expedition may use these short waves: 91.2, 89.1, 53.57 (commercial), 53.10, 45.59, 34.05, 26.78 (commercial), 26.55, 22.75, 17.945, 17.857 (commercial), and 13.758 metres.

Short waves do not travel along the surface of the earth like ordinary wireless waves, but are projected into space and are "reflected" by the Heavy-side layer. It is this fact that gives rise to the curious "skip distance" effect which causes short-wave stations to be heard better at a greater distance than close at hand.

General.

The detector valve is more sensitive to weak signals when the filament is heated at less than its rated voltage.

Mr. Stanton, Christchurch, recently heard PCLL, Holland, transmitting simultaneously on 38.8 and 18 metres. Different programmes were being given, but the same call, PCLL, used.

Reception was very weak during the week end, both in Wellington and elsewhere.

Now that the American elections are over we shall probably hear more music and less talk from the short-wave stations in this country.

Saturday, November 3.

2XAD was much below their usual volume. Governor Smith was heard for a while. The same speaker was heard much better through KDKA. He was speaking at the Brooklyn Academy of Music, Brooklyn, New York. Strength was about R5 at its best.

1FC was heard working 2GA.

For the first time since PCJJ commenced their special New Zealand-Australian programmes for reception here on Saturday afternoon I have been unable to receive them. This was the experience of others.

Sunday, November 4.

2BH, 2B1, and 1FC, New Zealand amateurs, were testing on 'phone during the morning. 2XAF and KDKA were both transmitting a political talk by the Democratic candidate for Pittsburgh, Penn. From KDKA the weather report and messages to the Arctic and Antarctic followed. 2XAF thanked the "Lucky Strike" people for giving up their usual weekly programme in favour of election talk. They then relayed music from Albany, New York,

Round the World on Short Wave

Notes of special value to short-wave enthusiasts are contributed weekly to the "Radio Record" by Mr. F. W. Sellens, Northland, Wellington. Observations from others are welcomed.

till closing down. 2AE, New South Wales, was testing during the evening. A lady singing at RFM about 9.40 p.m. came over very well.

Monday, November 5.

At 6 a.m., 7LO Nairobi, was R3. As usual, static and morse spoilt readability. Interference decreased slightly by 7 a.m. 3LO, Melbourne, was excellent at R8. Strength has been better, but modulation and steadiness was all that could be desired. Duplex telephony between 2ME (R9) and 2XAF (R7-8) was both clear and steady from both stations. Morse QRM was bad at times on the American's wave-length.

Volume was still better by 10.30 p.m. RFM at R8 was good, except for slight static.

Tuesday, November 6.

RSR was tuned-in at 5.30 a.m. to the metronome. Talk and musical items were received at R8, very clear and steady. 7LO was only R2 about 5.30 a.m., and was lost later.

2XAD was heard calling 5SW, England, and apparently had some trouble in getting in touch with them. After saying that there would not be any test on Thursday, and "See you again next Monday at the usual time," 2XAD closed down at 6.5 a.m.

During this period I could not hear a sign of 5SW.

2XAD was heard again from 7 a.m. at R4-5. Musical items were given and a lady was talking at 7.30 a.m. when I closed down.

5SW at 7 a.m. was weak (R4), with rapid fading. Big Ben was heard, but the talk following was not readable on account of rapid fading.

6AG, Perth, at 10.45 p.m. was very good. After some music, he told his listeners about his transmitter and the hours he is testing.

Wednesday, November 7.

From 5.30 a.m. till 8 a.m. PCJJ was received perfectly. Strength R9 at first, slowly decreasing to about R3, when it was still clearly readable. Static slight at first, increased later.

7LO, Nairobi, R4, morse R6. "Enough said."

RSR, with all talk, was R7 at first, but only R3-4 at 7.30 a.m.

5SW at 7 a.m. was R5. Rapid fading and a morse station on top spoilt reception.

Presidential Election Returns.

PROGRESS results were broadcast by stations 2XAF and 2XAD, strengths R8 and R6, respectively. Reception from both stations was very clear and steady, being 100 per cent. readable.

When first tuned-in at 6 p.m. the latest returns were being read. After this they "went over" to the Grill Room, Hotel Roosevelt, New York, for musical items. "Young Microbe," in speaking from the hotel, said he "was sure tickled to death on this hook up." The "hook up" referred to was the National Broadcasting Company and sixteen associated stations.

It was stated that this was the first time in history that the American Presidential election had been broadcast.

At 6.50 p.m. it was announced that a rebroadcast from Paloalto, California, Mr. Hoover's home town, would be put over.

This was picked up from the driveway of Mr. Hoover's home. A band was heard playing American national airs.

Mr. and Mrs. Hoover, on the balcony, were cheered by Yale boys. Theirs is a different cheer to what we are used to hearing, being "Rah, rah, rah." Later these boys sang the "Stamford Hymn."

Mr. Hoover thanked the crowd, some four or five thousand people, for their greetings.

Returning to Schenectady, further results were given, with musical items between times. It was stated that 100,000 persons had been compiling results since 1 p.m.

The two stations closed down at 2.43 a.m. E.S.T. (7.43 p.m. here), after asking for reports of reception from all over the world.

RFM, at R8, were heard with music and talk. 2HC, N.S.W., was calling 2GQ, N.S.W., also a Melbourne amateur.

On about 28.5 metres a Jap was having a lot to say. R6. 6AG, Perth, at R8 was very good.

Thursday, November 8.

STATIC was very bad on all stations received 6 a.m. RSR with talk and music was R8. 7LD only R3. PCLL R8-9. Strong and steady, transmitting gramophone records. I tuned in 5SW just too late to hear their hour of transmission for Armistice Day, the last few words only being heard. Big Ben came through at R7. The Jap was on again during the evening. Strength R8. A lady was talking. Sounded very much like the Maori haka.

Friday, November 9.

PCJJ from 5.15 a.m. till 7.30 a.m. was very clear and steady. R8-9 at first; R5 at 7.30 a.m. 5SW (R6) and 2XAD (R4-5), both 100 per cent readable, were having a chat about the weather, elections, etc. During the latter part of their talk, just before 6 a.m., it was snowing in Schenectady. At Chelmsford it was a typical November day.

7LO, Nairobi, R4. Morse QRM very bad. RSR R4. Music and talk, clear and steady.

During the evening a new amateur to me was heard transmitting records and signing 2AO, Lower Hutt. Strength R9 and quite good.

Our Jap friend on 28.5 metres was talking again. Call sign not heard.

6AG, Perth, "put over" some gramophone records and the latest cricket scores.

5SW, 12.25 a.m.: "Good-morning, everybody. This is 5SW, etc." He then gave the times for the Armistice Day services on November 11, and said: "We are switching over to London for the lunch-time programme." Big Ben strikes 12.30. Orchestra. Organ recital. Works by Bach. Reception R8. Excellent. Best yet for their midday transmission.

PCJJ's New Times.

Philips Lamps (N.Z.), Ltd., advise the following new schedule of transmissions from PCJJ (all New Zealand summer time):—Every Wednesday from 4 a.m. to 8 a.m.; every Wednesday from 11 a.m. to 2 p.m.; every Friday from 4 a.m. to 8 a.m.; every Friday from 11 a.m. to 3 p.m.; every Saturday from 4 p.m. to 7 p.m.; every Sunday from 2 a.m. to 5 a.m.

Valve and Tube

ALMOST every radio enthusiast is aware that the Americans use the word "tube" where we use "valve." The latter term is, however, considered to be the most appropriate and there is a tendency for it to be generally adopted. With respect to this the editor of the New York "Popular Radio," who has made the substitution, says:—

"After having received a number of letters questioning the license we have taken in using the term 'valve' in place of 'tube,' we feel constrained to say something in defence of this policy.

"One slightly irate reader complains with some feeling that we have been 'high-hatting' him. 'Popular Radio' obviously has no interest in 'high-hatting' its readers; but it does have a sincere desire to keep its terminology as scientifically accurate as possible, and, following the growing tendency of the radio engineering profession, it has forsaken the ambiguous term 'tube' for the more descriptive one of 'valve.'

"After all, a tube may mean a container for toothpaste or the Hudson River Vehicular Tunnel."

THERE are over 61,000 license-holders in Norway, but the broadcasting company estimates that there are another 40,000 wireless pirates there.

RADIO's popularity is becoming world-wide. Denmark, for instance, numbers 200,000 receivers in its homes, which places it right up in the front rank of European radio nations.

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A Few Bargains at Mack's

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