

A RADIO EXPERT**RESEARCH APPOINTEE****A SERVICE TO LISTENERS.**

The "Radio Record" has pleasure in announcing that an appointment of outstanding interest to all radio enthusiasts has been made: that of Dr. Miles A. F. Barnett, M.Sc., Ph.D., Ass. I.R.E., as physicist to the Dominion Laboratory. Dr. Barnett, who is now carrying out investigations in England for the New Zealand Department of Scientific and Industrial Research, is highly qualified as a radio scientist.

The services of Dr. Barnett will be available to radio in the Dominion and his advice on problems in which scientific research is necessary will be invaluable.

Dr. Barnett has had a brilliant scientific career. He is a son of Sir Louis Ederard Barnett, C.M.G., of Dunedin, and took his M.Sc. degree at Otago University in 1924, gaining first class honours in electricity, magnetism and mathematics. While attending the Research Station at Clare College, Cambridge, he won the Denham Baynes Research Scholarship, and since then has been engaged as a qualified investigator under the Radio Research Board in England. He also worked at the Cavendish Laboratory, Cambridge, under Sir Ernest Rutherford.

Dr. Barnett has had a highly interesting radio career and has succeeded in solving a number of problems that were baffling investigators. He was one of the scientists who went with an expedition to Greenland to carry out research work into the question of the fading of radio signals, and has taken prominent part in a number of other investigations of the scientific side of radio.

Dr. Barnett is at present working at the National Physical Laboratory in England on problems associated with New Zealand's export produce, but will later be returning to New Zealand.

EMPIRE BROADCASTING**AN OFFICIAL STATEMENT****DIFFICULTIES OF RECEPTION NOT TRANSMISSION.**

Empire broadcasting has been the subject of an important statement by the British Broadcasting Corporation. This denies that the corporation is definitely committed to play a rightful part in that connection, but declares that it declines to accept premature and unsound proposals, which would certainly retard and prejudice the full attainment of the objective.

The relaying of London programmes on a short wave-length would arouse temporary interest, but would inevitably be followed by keen disappointment and disillusionment. The corporation is relying on the zest of available scientific opinion and research at home and abroad, and is pressing forward plans for regular Empire transmissions.

The problem is one of reception rather than transmission. If the eventual service is to reach the majority, it will have to be rebroadcast through the existing Dominion stations.

Meanwhile the corporation wishes amateurs every success in their efforts, which it hopes will contribute to a solution of a baffling problem. Though continuing the work of Empire broadcasting, the corporation is not disposed to give it priority of service. A greatly-improved system of distribution to English listeners is at present being perfected.

INTERNATIONAL CRISIS**VALUE OF 2YA, WELLINGTON****BROADCAST STATION IN CHINA SENDS TIMELY WARNING.**

The Prime Minister, the Hon. J. G. Coates, recently stated that the Government would regard Wellington's superstation, 2YA, as a potent asset in time of a national crisis. Foreign residents in China received a timely warning from a broadcast station in Shanghai when the great upheaval occurred there recently.

The Shanghai broadcast station KRC provided the means whereby thousands of missionaries and other foreigners were warned and their lives saved during the recent serious troubles in China. The story was told in a letter just received by the Kellogg Switchboard and Supply Company, of Chicago, sent to them by a group of missionaries, relating the part played by the lone Shanghai station in saving their lives.

The hampered facilities of communications and the broken-down telephone and telegraph lines and the control of the available lines by the Chinese military made the task of notifying foreigners in the remote sections of China almost an impossibility.

Station Offers Services.

It was then that the manager of the broadcasting station in Shanghai offered to help out the American naval and consular authorities, by sending out warnings over its microphone.

While there were not many receiving sets in operation in the interior—since radio equipment is classed as munition of war in China, and therefore contraband—there were quite a few receivers known to be scattered throughout the troubled area. The warnings sent out over the Shanghai station and picked up by the lucky listeners, who spread the news to their friends and neighbours, made it possible to save thousands whose fate would have remained unknown.

Built Four Years Ago.

The broadcasting station, operating under the call letters of KRC, is run jointly by the Shanghai office of the Kellogg Switchboard and Supply Company, of Chicago, and "The Chinese Free Press," a Chinese-American newspaper. The entire apparatus, except the microphones, tubes, and other equipment sent from Chicago, is home made, having been put together four years ago in Shanghai by Roy E. De Lay, a Kellogg radio engineer. This was necessary, because of the embargo on the importation into China of foreign radio equipment.

Warned in Two Languages.

Little Miss Ai-lieu Wu, who is the regular announcer of the station, was the one who broadcast the daily messages of warning which were picked up by thousands scattered in the interior. She announces in both Chinese and English.

The station has been broadcasting a regular daily programme in the two languages and on Sundays religious services in three or four languages have been broadcast. The station is of 500 watt power, and has a wave length of 370 metres. It has been heard in British Columbia and in San Pedro, California. It will continue at the disposal of the authorities until all danger is past.

We are on the verge of still more wonderful things in radio. A valve of higher sensitivity than heretofore known was demonstrated recently in New York. The valve, which is termed a "grid-glow" relay, being filled with neon, is said to cause a modification in the plate current 100,000,000 times as great as that on the grid; or, in other words, it will respond with a 25-milliampere current to the most infinitesimal change in its adjustment.

SHORT WAVE RECEPTION**NOW POSSIBLE TO ALL****WONDERFUL NEW DEVICE.**

Until recently reception of short wave broadcast programmes was confined to amateurs and experimenters who could build their own short-wave equipment for the purpose. Now, through the invention of W. M. Bruce, Jr., consulting engineer of the Crosley Radio Corporation, Cincinnati (U.S.A.), and expert on submarine cable, the field has been widened so all radio fans who can afford the cost may use their ordinary receiving sets and enjoy the new form of entertainment.

Short Wave Feats.

Short wave programmes, incidentally, already are being broadcast by KDKA, Pittsburgh; WGY, Schenectady; and WLW, the Crosley radio station at Cincinnati. Remarkable records have been achieved in receiving short wave broadcasts. Stations of but a few watts power have been picked up thousands of miles away.

The New Device.

The history of Mr. Bruce's new device, known as the "Lowave," is extremely simple. The unit consists essentially of a small short-wave receiving set with detector and one stage of audio frequency amplification and an oscillator tube adjusted to operate within the broadcasting range.

Short to Ordinary Waves.

Signals are received by the short-wave set and are detected and amplified by the two valves provided for this purpose. The amplified signals are then impressed on the oscillator valve, which is modulated by them and which

SOS**INFORMATION WANTED**

We have received the following incomplete subscriptions, and would like the necessary data to enable us to send the paper:—

A P.N., 7/6, from Hastings, dated August 2; no name or address.

E. W. Meek.—No address (7/6 enclosed); August 1.

A. H. Hayes; no address. 7/6 from Morrinsville, dated August 5; no name or address.

reproduces the signals on a longer wavelength, for example, 300 metres, so that they can be heard on an ordinary broadcast-receiving set attached to the device. It is merely necessary, then, to connect the output of this oscillator valve to a radio set, tune the set to 300 metres (or whatever wavelength the oscillator valve is adjusted to), and listen to the short-wave signals. In brief, the signals are picked up on the short wave, used to modulate an oscillator valve, and rebroadcast into the radio set at ordinary broadcast wavelengths.

Simple, But Ingenious.

Simple as the unit is in theory, ingenuity of design has been used by the inventor in order to reproduce units in large quantities which would have uniform characteristics. The small capacities and inductances which must necessarily be used in the short wave portion of the circuit make it important that precision methods be used in its design and manufacture. As produced by factory methods, the new invention is both compact and rugged. The cabinet is about one-third the size of an ordinary five-tube radio set.

Connects to Ordinary Set.

To install the Lowave, the aerial lead wire is disconnected from the radio set and attached to the aerial terminal of the Lowave. The terminal on the Lowave marked "Set" is then connected to the aerial post of the radio set. The "A" plus and "A" minus terminals of the Lowave are connected to the regular "A" battery used with the radio set, while the "B" battery terminals of the unit are connected to a separate "B" battery.

Easy Operation.

Short wave tuning is accomplished by means of a control knob and a second dial adjusts the amount of regeneration of the short-wave detector valve. In order to shift from short-wave reception to long wave reception, or vice versa, a push pull switch is provided. When this switch is pushed in, the antenna is connected direct to the antenna post of the radio set, cutting the Lowave out of the circuit. When the switch is pulled out, the incoming signals pass through the Lowave circuit before reaching the switch without disturbing the connections, in order to shift back and forth from short waves to ordinary broadcast wavelengths.

To avoid mental shock to a patient who is undergoing an operation with the aid of only local anaesthetics, it is desirable to keep his mind engaged. Surgeons in St. Luke's Hospital, Chicago, now place a radio set beside the operating table and carve the conscious patient to the accompaniment of music. Such items as "Nearer, My God, To Thee," should not be tuned in.

STATIONS LINKED**SIMULTANEOUS BROADCASTS**

It is only a matter of time when the New Zealand broadcast stations will be linked together by land lines, so that a special programme or announcement from one of the stations will be simultaneously broadcast from each of the other three. In the United States this system has been in vogue for some time, and now one big combination operates three huge chains of stations.

HUGE AMERICAN CHAINS.

The National Broadcasting Company, with its three networks, covers the entire United States. There are at present on the Red Network 22 cities, while eight are associated with the Blue. The Pacific coast network, which reaches from Los Angeles to Spokane, includes seven stations. It has been over these three comprehensive radio systems that the nation has heard President Coolidge and other speakers of national importance, as well as the Chicago Civic Opera broadcasts last January and other musical, political, and sports events of outstanding interest.

AUDIENCE OF 20 MILLIONS

Officials of the National Broadcasting Company have estimated that an audience of 20,000,000 persons listen when the three networks are transmitting, which is indicative of the tremendous number of radio enthusiasts to whose enlightenment and entertainment Chicago will contribute.

RED AND BLUE NETWORKS

Stations of the Red and Blue Networks are located in the following cities: WJAZ, New York; WJBR and WJZA, Boston; WJAR, Providence; WTAG, Worcester; WTIC, Hartford; WBZ, Springfield; WGR, Buffalo; WLIT, Philadelphia; WRC, Washington; WCHS, Portland, Me.; WCAE and KDKA, Pittsburgh; WTAM, Cleveland; WWJ and WJR, Detroit; WSAI, Cincinnati; KSD, St. Louis; WOC, Davenport; WSM, Nashville; WMC, Memphis; WMAQ, KYW, and WBBB, Chicago.

ADVANTAGES IN THE DOMINION.

The chaining together of the New Zealand stations by land lines would prove of particular advantage in the event of a national crisis. Announcements broadcast, for example, from 2YA, Wellington, could be simultaneously broadcast by the other three stations so that even the crystal set owners in each city could hear them.

AUSTRALIAN SUCCESS.

During the opening ceremony of the Federal Australian capital, Canberra, several Australian stations, including 5LO, Melbourne, were linked by land lines to Canberra, and listeners operating crystal sets in Melbourne heard every word uttered at the ceremony.

On previous occasions Australian stations have been connected by land lines with successful results.

RADIO ON THE FARM

New Zealand farmers, read this! More radio sets were sold to farmers in Western Canada last year than to any other class. Radio has developed into an important factor in land settlement. It has banished the traditional isolation of the farm. Radio keeps the new settler in constant communication with the outside world, gives him information on the latest phases of agriculture, keeps him in touch with market prices and furnishes his family with music and entertainment.

LEARN ESPERANTO

Lesson 3 of our Esperanto course, which, as most readers are aware, is being conducted in conjunction with 2YA, is presented below.

During the instructional transmission from the station, students should have a copy of the printed lesson at hand. This point is again stressed in order that the broadcast lesson may be more readily followed and understood.

Inquiries relative to Esperanto may be made to "The Esperanto Instructor," N.Z. Broadcasting Co., Ltd., Wellington, or care of "Radio Record." A stamped addressed envelope must accompany each inquiry, otherwise a reply cannot be guaranteed.

LESSON III.

(To be broadcast from 2YA on August 18, from 7.39 to 7.51 p.m.)

The Adjective.

All ADJECTIVES (words which qualify or describe nouns) end in A. They agree with their noun in number and case. La lerta amato desegnis novan cirkvitojn. The clever amateur designed a new circuit. Grandaj stacioj sendas longajn ondojn. Large stations transmit long waves.

Degrees of Comparison of Adjectives.

The comparative of EQUALITY is expressed by TIEL (as, so): KIEL (as); mi estas TIEL forta, KIEL vi. I am as strong as you. The comparative of SUPERIORITY by PLI (more): OL (than): mi estas PLI forta OL vi. I am stronger than you. The comparative of INFERIORITY, by MALPLI (less): OL (than): mi estas MALPLI forta OL vi. I am weaker (less strong) than you. The SUPERLATIVE of SUPERIORITY by PLEJ (most): EL (out of, of): mi estas la PLEJ forta EL c'uj. I am the strongest (most strong) of all. The SUPERLATIVE of INFERIORITY, by MALPLEJ (least): EL (out of, of): mi estas la MALPLEJ forta EL c'uj. I am the weakest (least strong) of all. The SUPERLATIVE ABSOLUTE by TRE (very): mi estas TRE forta. I am very strong.

Vocabulary.

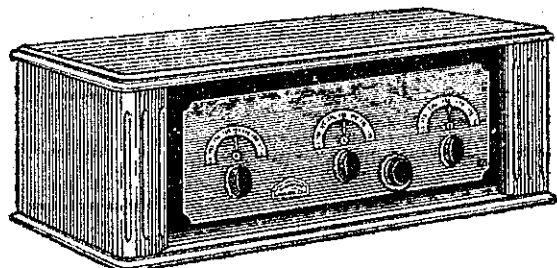
bela—beautiful,	homo—man, hu-
blanka—white	man being
blua—blue	hundo—dog
bona—good	infano—child
fidele—faithful	Johano—John
forta—strong	lakto—milk
fres'a—fresh	mano—hand
juna—young	pura—pure, clean
matura—ripe	pano—bread
nova—new	papero—paper
nutra—nutritious	tablo—table
neg'o—snow	vino—wine
ric'a—rich	onklo—uncle
sana—well, healthy	pli—more
c'ielo—sky, heaven	ol—than
festo—holiday	sed—but
fraŭlino—maiden	tre—very
lady, miss	ne—no, not
	sur—on, upon

Translate and read aloud:

La patro estas sana. Infano ne estas matura homo. La c'ielo estas blua. Leono estas forta. La patro estas bona. Le mano de Johano estas pura. Papero estas blanka. La papero estas tre blanka, sed la neg'o estas pli blanka. Lakto estas pli nutra ol vino. La onklo estas pli ric'a ol la frato. La hundo estas fidea. La libro estas nova.

"Lady Singleton is asking for you on the television, sir." "Dear me, I shall have to call her back. I'm not dressed."—Frank Godwin in "New York Evening Post."

The first "radio suicide" is reported from Vienna, where a middle-aged domestic fell in love with a musician whose broadcasts she heard over her radio. She bought his photograph and treasured it; but her impassioned love letters remained unanswered by even a verification of reception, and finally the heartsick spinstress turned on the gas.

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This is the Wonderful Receiving Set, tested and highly recommended by the N.Z. Co-op. Dairy Co.

A £40 set for £35.

Amrad sells on its own exceptionally fine performance, and easily ranges itself alongside other sets selling at £40.

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District Agents: HAMILTON: L. V. Martin and Co., Ltd. TE PUKE: I. G. Shaw.

AGENTS WANTED IN UNALLOTTED TERRITORY.

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2YA WELLINGTON and ATWATER KENT

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