How Wireless Has Lightened the Task of the Whaler

By R. G. Walker, in "Sydney Radio"

JUST three years ago a ship set out for the Antarctic Ocean well provisioned, well fitted, and well manned, and she was accompanied by several smaller ships—ugly little things—each with a barrel on her mast, and a perky gun in her bows. This was the whaling ship, Sir James Clark Ross, and the little ships were her assistants. They went to an unknown job in more or less unknown waters, and they knew they would meet with many unforeseen experiences in the five or six months they would be away from the civilised world.

Their forebodings were not without foundation. One of their greatest fears was the losing of the little fleet. The ships would be away for days hunting the elusive whales, and ever so often bringing their captures back to the mother ship to be flensed. The weather was often bad, and visibility poor, despite the fact that the sun never set.

They fought the snow and blinding sleet, and worst of all the merciless, pinching ice. They were stoical men, and being Norwegians, they said little; but there is no doubt they felt a great deal. Many times they lost the bearings of the mother ship, having strayed further from her than usual when hard on the heels of some big fish, and many weary hours they scanned the frozen wastes anxiously searching for the faint plume of smoke which would indicate the big ship and safety.

AT one time a small whaler was lost for many days, and the big ship made a cache of provisions and coal on the ice on the chance that the unfortunate whalemen would find it before they ran out of fuel and food, and exhaustion bade them give up the search. Day by day the season was getting later, and it was more and more dangerous for the big ship to stay so far south; every day the water lanes in the ice grew narrower, and the wind howled over the dismal wastes more drearily as the Antarctic winter drew on, pounding together the great bergs and floes, and making them shriek in their ceaseless conflict. The mother ship waited as long as she could, but as the pack ice showed signs of closing the entrance to the Ross Sea (and a change of wind would mean imprisonment in the ice for the winter), the Sir James Clark Ross steamed slowly for the open sea, the little whaler and her crew given up as hopeless.

It was by a stroke of luck they found her, steaming anxiously round a huge berg, navigating the ever-narrowing lane of water between the two limitless floes, and never was a crew more glad to be reunited.

ALL this has become ancient history within the passing of three years, but it served to show what wireless could mean to whalers. The Sir James Clark Ross was later fitted with wireless, and is now able, practically the whole of the time she is in the Ross Sea, to communicate with New Zealand. She can get the news of the world, and hear music from several of the New Zealand and Australian broadcasting stations. Indirectly, any member of her crew can send a message to his friends or his wife and family in Norway to let them know he is safe and well. But most important of all, she can maintain communication with her tiny fleet.

INSPIRED by the success which has attended the Sir James Clark Ross, two other fleets have been fitted out, led by the ships, C. A. Larsen and N. T. Nielsen Alonso. These, as well as the Sir James Clark Ross, has profited by experience, and have been fitted out with the most efficient wireless apparatus that money can buy. The N. T. Nielsen Alonso has a more powerful and more elaborate wireless installation than any merchant ship afloat, and all her small whalers are fitted with wireless sets capable of communication over a distance of 500 miles. There is now not the slightest danger of the smaller ships getting lost, or for a moment getting out of touch of the rest of the fleet, and the mother ship has not the slightest difficulty in communicating direct with wireless stations in Norway using her short-wave transmitter.

THE Nielsen Alonso is using Hobart as her base, and all the way from Larvik, her home port in Norway, she has been testing her wireless apparatus as well as small telephony transmitters intended for small whalers, which, by the way, are five in number, and are called Pol I, Pol II, etc., the word Pol being Norwegian for our word Pole. The telephone transmatters use a wave-length of 900 metres, and so far have proved quite reliable over about 100 miles. They comprise two full-emitter receiving valves, connected together in parallel, a common telephone microphone, a couple of heavy duty dry cell high-tension batteries, and a thick wire loose coupler very clumsily and obviously home-made, but wonderfully efficient for all that.

The pet piece of apparatus in the Nielsen Alonso's wireless "shack" is the short-wave transmitter, or, rather, short-wave adaptor of the long-wave C.W. transmitter. The plate voltage for the large 500 watt valves is obtained from a motor generator set fed from the ship's 110-volt direct current lighting supply. It is changed from direct to alternating current by the motor generator, and then stepped up to 5000 volts, and rectified by two large valves. There is all the other gear which is standard on most ships—spark transmitter and emergency apparatus.

THERE are numerous receivers which are capable of covering all wavelengths from 20 to 25,000 metres, and enable the operators to pick up Press messages from the high-power stations of the world, or to listen to amateur experimenters communing with one another.

One of the most important pieces of apparatus on the ship is her wireless direction finding set. It is accurate within one degree out of the 360 into which the complete circle of the compass card is divided. Down so far south all magnetic compasses, such as are used on ordinary ships, are useless, and simply run round in circles, because the ship operates almost on top of the southern magnetic pole of the earth; but the wireless direction finder never errs, and on it the ship depends entirely for her bearings. It is also used to locate the smaller ships when they get out of sight of the mother ship. They, too, are fitted with the latest direction finding apparatus, and with it they can locate the mother ship's position in a couple of moments. With this apparatus, they are never afraid of getting lost, and many of the old terrors are removed. They keep in constant touch with the mother ship, and follow her wirelessed orders.

THE men who have the worst time on a whaling ship are the flensers. They work anything up to fourteen hours a day, cutting up the whale blubber, and getting themselves covered with oil, filth, and offal from their prey. The wireless operators have a better time, but not so very much better, all things considered. On the little ships, the skipper generally directs operations, trains and fires the whale gun, and operates the miniature wireless set in a cabin which looks too small to get into. In rough weather, he has an exciting time, wedging himself against the steel walls of the wireless "match box"—it is nothing more—and operating the set with one hand, while he stops it falling off the table with the other. Every uneasy jerk of the little ship makes him send dots instead of dashes and dashes instead of dots. After he has been working for a while, the set goes 'dead," and he has to go outside and break the ice off the lead-in insulator. Ice is one of the greatest troubles these operators experience. It clings to the aerial wires and insulators, and makes the aerial leaky and useless, and weighs it down until it is necessary to let the aerial down, and break the ice from the wire. No, you will admit it is not an easy job, but whaling would be a much harder trade if it were not for wireless.

Notes from Auckland

(By Listener.)

BROADCASTING played its part well in the remembrance of Anzac on Wednesday of last week. 1YA rose to the occasion in a manner that showed careful and adequate preparation on the part of the staff who realised that through their efforts the reality and solemnity of the occasion could be borne to thousands who were unable to congregate in or near the Town Hall. The procession of returned men who marched up Queen Street was excellently described by Mr. Culford Bell. The popular Auckland announcer described the scene simply and most fittingly, in the finest effort that has been achieved by the local station for some time. Mr. Bell is certain to receive many messages of congratulation for his effective verbal picture of the parade. The relay of the service from the Town Hall came through splendidly, as did the memorial service from St. Matthew's in the evening.

TUESDAY'S Shakespearean night was an unqualified success. It is strange that the average person has little appreciation of Shakespear's works and pays scant attention to the reading of them, but it is safe to prophesy that, after Tuesday's broadcast there will be an increased attention to the dramas of the world's most famous writer. The spoken word, well spoken has an appeal that no cold print could make. The capable interpretation of characters by Auckland's histrionic talent, and the well chosen instrumental and vocal music provided a real Shakespearean education, a classical treat that suited all tastes Tuesday's broadcast has done something more than providing an evening of entertainment: it played a big part in developing an appreciation that should be much to the benefit of the next Shakespearean repertory company that happens along.

AUCKLANDER'S are displaying a keen interest in the first appearance of the big studio orchestra at 2YA, and the local programme is very likely to be neglected on Tuesday evening, when the talented band of Wellington musicians makes its first appearance before the microphone. There are hopes that ere long the Wellington innovation will be duplicated in the Northern City.

THAT musical and dramatic organisations are eager to assist in the great work of broadcasting was plainly shown at the recent meeting when delegates representative of almost all important societies concerned with public entertainment gave unanimous approval for Mr. Harris's scheme for co-operation in programme efforts. Members of the committee appointed are most enthusiastic and their deliberations next Friday will help radio along considerably. Such committees will create harmonies beyond the power of a transmitting plant to convey effectively in a direct form, yet these harmonies will be reflected in future programmes. The dramatic features now promised regularly will supply a longfelt want, and next week's initial effort is assured of a keen reception. It would be well for listeners to bear in mind that these, like the operatic presentations, require an unrealised amount of preparation and rehearsal on the part of far more than a single individual.

THE local press has given a prominence greater than it deserves to the report that there is a decrease of over 3000 in the number of licenses issued this year, upon the number current just prior to March. It is stated that about 1000 have notified that they do not intend to renew their licenses. These are probably the total of those who will not listen in during 1928, and their perecentage, out of over 14,000, is a very small one—a remarkably small one, when the figures of other countries are concerned. Fluctuations in the personnel are bound to occur, particularly when there are always folk who will be drawn for a brief spell to anything they regard as a novelty. The loss of this thousand is one that the commencement of a year will overcome with ease and rapidity. Of the other 2000 it is safe to assert that they belong to a class who require several reminders before they forward their annual dues. Business people are well aware how large such a class is. By the time these notes are read we may anticipate that there will be a second rush on the registration counter, with the usual flood of excuses about forgetfulness, pressure of business, etc. There is certainly no need for pessimism about the future of broadcasting in the north. It took strong root here, and figures in two months time will undoubtedly prove a rude shock to the "I told you so's" of to-day. Auckland district probably cannot expect to regain the pride of place from which the Wellington district recently ousted it, but it will run that province a good and consistent second. Radio is not a luxury, it is a public utility and is here to stay.

G.E.C. STATIONS

INTERESTING DETAILS

VISIT BY MR. W. A. WATERS.

Mr. W. A. Waters, A.M.I.E.E. (Palmerston North), writes as follows:—I notice in this week's "Record" that Mr. J. A. Huxtable, of Mount Eden, Auckland, desires some information on the General Electric Company's station and their methods, and as the writer spent ten days in Schenectady two years ago, as a privileged guest of the General Electric Company, I am sending the information along that he desires.

Their broadcast station, WGY, as well as 2XAF, 2XAD, etc., are controlled from the main studio on the ground floor of the International General Electric Building, at the entrance to the main works. The huge factory buildings, numbering over 100, are arranged on two sides of a "street" about a mile long. On the top floor of one of the big buildings in the works (about a quarter-mile from the studio) is the original WGY transmitter, the Milliken Towers being erected on the roof of the building, similar to 1YA. This station (as well as their other transmitters) is crystal controlled, and the crystal is kept in a case at constant temperature to ensure its accuracy.

The day I visited WGY transmitter it was radiating 9000 watts on test. About three miles away from the studio (air line), out in the open country, is located their South Schenectady transmitter and research department for radio development. Here is located the super-power station of WGY, which had an aerial power of 50,000 watts, and was used on Saturday nights when I was there. They have since radiated 100 k.w. from this station. In the same building were other transmitters, and tests were in progress broadcasting on various wave lengths simultaneously on the one programme. Sometimes as many as seven wave lengths were broadcast at one time in connection with their research work.

As we all know now, this has been consolidated down to WGY, 380 metres (ordinary WGY, 5000 watts and super-power WGY), and 2XAF on 31 metres and 2XAD on 22 metres.

One interesting point I might mention re 2XAF was that on the day that I visited this (2XAF was situated in a separate building) and saw this transmitter in action, the engineer, who was acting as my guide (Mr. Russel Hoff, who also sometimes announces over WGY), remarked that the valves were running very hot, and the research engineer replied that he was not worrying as it was the first time they had pushed 10 kilowatts into the air on short-wave! What did a valve matter when they had succeeded in radiating such an amount of energy on short-wave telephony!

We all went outside the building (snow was 2 feet deep), and with a theodolite had a peep at the radiation meter halfway up the aerial! It was there and then that I contracted the short-wave infection.

Now, it is a development of U.S.A. for a number of broadcasting stations to "tie in by wire" and broadcast the same programmes. This is called chain broadcasting, and often as many as 50 stations broadcast the one programme of an important event (such as a fight), and half a dozen, up to two dozen, stations on the one programme are quite common. This cuts their running costs and enables the best talent to be used, as listeners pay nothing for listening to U.S.A stations. Hence you are quite likely to hear WGY, WHAP, WMAK, WEAF, 2XAD, etc., from the announcer when you are actually listening to 2XAF in New Zealand, as they are on "chain hook-up," as our American cousins call it.

Often one announcer takes charge and gives all the station calls on the "chain" until the stations individually sign off themselves at the termination of the broadcast. Recently I heard them announce various stations from Buffalo to New York (a distance about equal to Auckland from Wellington), with Rochester, Syracuse, Albany, Schenectady, etc, at the intermediate points. All these stations tap the one line, and as WGY, Schenectady, for instance, does the announcing, two-thirds of the distance along the line, and the orchestral music is fed into the same line, probably 300 miles away, it is obvious that the orchestra is unaware that the announcer such a distance away is on the job.

I trust this information is what Mr. Huxtable was after.

AORANGI'S WIRELESS

A FINE EQUIPMENT

LETTER FROM MR. OWEN.

Writing when "nearing Fiji" Mr. J. H. Owen, president of the Wellington Radio Society, says:—

By permission of Commander R. Crawford, and the kindness of the Chief Wireless Operator, Mr. C. F. G. Taylor, I am able to give you a few details of the wireless plant on board the s.s. "Aorangi." The equipment, as a whole, is quite the most up-to-date installation on the Pacific and consists of:

Transmitting Sets.

(1) 1½ K.W. Radio Corporation Spark Set, on 800, 706, 600 and 450 metres.

(2) 1½ K.W. Radio Corporation Set, continuous wave attachment tuned to 500, 600, 2000 and 2,400 metres.

(3) 1½ K.W. Amalgamated Wireless (Australasia) short wave transmitter set, 21 and 37 metres.

(4) ½ K.W. Hamilton Wilson Emergency set run off 18 volts. Sydney has been worked at 1200 miles on this.

(5 and 6) Two ½ K.W. Lifeboat sets.

A Direction Finding Set is installed which enables the vessel to locate her position in foggy weather.

Receiving Sets.

(1) A two-valve short wave.

(2) A three-valve, tuned for 300 to 100 metres, using 1 radio, 1 detector, and 1 audio valve.

(3) A Radio Corporation Set tuned for 200 to 20,000 metres, using 1 oscillator, 1 detector, and 3 audio valves.

(4) There are two other sets, both short wave, constructed on board—3 valves and 3 coils.

The main aerial is 330 feet 7/18 strand. The short wave aerial is a vertical one, 60 feet. On short wave Sydney and Wellington are worked continuously, the rates being 6d. and 5d. per word. Transmissions have been received and sent to Burnham, Somerset, U.K., on short wave, rate 11d. per word. This is frequently impossible at sea owing to induction from ship's fans, motors, and general electric equipment. Loudspeakers, cone type, four in saloon, four second class, and one third class, enable passengers to hear the excellent ship's orchestra from any part of the ship. Concerts are received from New Zealand, Australian, and American stations when circumstances permit. Finally a Radio Communication Company's Automatic Distress Call device is installed which rings a bell when a distress call is sent out, and so alarms the operators (of whom there are four in all). It works in conjunction with a three-valve set. The total number of valves in use for all purposes aggregate 32.

AUSTRALIAN PROGRAMMES

2FC, SYDNEY, 442 METRES

WEDNESDAY, MAY 2.

8 p.m.: "Big Ben"; Sydney Calland, baritone. 8.8: Lionel Lawson, violinist. 8.16: Keith Desmond, excerpts from the third act from "The Christian" (Hall Caine). 8.24: Sadie Grainger Broad, soprano. 8.32: Joe Cahill, entertainer. 8.40: Lionel Lawson, violinist. 8.48: Keith Desmond, entertainer, (a) "Gimme the Ground" (Dry-blower), (b) "The Little Bottom Drawer" (James Hunter). 8.56: Sydney Calland, baritone. 9.4: Late weather forecast. 9.5: Elliott Napier will continue his series of talks on "The Great Barrier Reef." 9.20: Sadie Grainger Broad, soprano. 9.28: Joe Cahill, entertainer. 9.36: H. W. Varna and company will produce the play, "Captain Applejack's Adventure" (by arrangement with J. C. Williamson, Ltd.). The play made famous in Australia by Laurence Grossmith. 10: "Big Ben"; incidental music to part two. 10.2: Part 2, "Captain Applejack's Adventure. Scene: The dream on the pirate ship. 10.18: Incidental music to part three. 10.20: Part three, "Captain Applejack's Adventure. Scene: Ambrose's home again. 10.38: Late weather forecast. 10.39: Len Maurice, popular baritone. 10.45: Dance session arranged by Len Maurice. 10.58: To-morrow's programme and late news. 11: "Big Ben"; National Anthem; close down.

THURSDAY, MAY 3.

8.5 p.m.: From the Masonic Club, Castlereagh Street, Sydney, a farewell concert (arranged by the Masonic Club), to Raymond Ellis, prior to his return to England. The 2FC Studio Orchestra, conducted by Horace Keats. 8.15: Raymond Ellis, baritone. 8.25: Margaret James, soprano. 8.34: Ellis Price. 8.40: Male Voice Choir (conductor, William Bourne). 8.50: The 2FC Studio Orchestra. 9.5: Peggy Dunbar, contralto. 9.15: From the studio, during the interval at the Masonic Club—Edgar Warwick and Eileen Dawn, radio sketch. 9.26: From the Masonic Club, continuation of the farewell concert to Raymond Ellis; the 2FC Studio Orchestra. 9.37: Margaret James, soprano. 9.45: Ellis Price, entertainer. 9.52: Male Voice Choir (conductor, William Bourne). 10: Raymond Ellis and Margaret James, duet. 10.6: The 2FC Studio Orchestra. 10.15: From the Ambassadors, the Ambassadors' Dance Orchestra (conductor, Al. Hammet). 10.30: From the studio, late weather forecast. 10.31: The Ambassadors' Dance Orchestra (conductor, Al. Hammet). 10.42: Studio music. 10.47: The Ambassadors' Dance Orchestra (conducted by Al. Hammet). 10.57: From the studio, to-morrow's programe and late news. 11: "Big Ben"; the Ambassadors' Dance Orchestra, in popular numbers until 11.45 p.m. 11.45: National Anthem; close down.

FRIDAY, MAY 4.

8 p.m.: "Big Ben"; from Her Majesty's Theatre, Sydney (by permission of J. C. Williamson, Ltd.), the first act of a new musical comedy. 9.10: From the studio, William Dallison, tenor. 9.18: W. F. Kay will continue his series of theatrical talks, dealing this evening with Melate George Coppin. 9.33: Oliver King, bass. 9.42: Lindley Evans, pianoforte solos. 9.50: The Ambassadors' Dance Orchestra (conductor, Al. Hammet). 10: "Big Ben"; William Dallison, tenor. 10.8: Lindley Evans, pianoforte solos. 10.16: The Ambassadors' Dance Orchestra (conductor, Al. Hammet). 10.25: Oliver King, basso. 10.32: From the Ambassadors, the Ambassadors' Dance Orchestra. 10.40: From the studio, late weather forecast; studio music. 10.57: From the studio, to-morrow's programme and late news. 11: "Big Ben"; the Ambassadors' Dance Orchestra. 11.45: National Anthem; close down.

SATURDAY, MAY 5.

8 p.m.: "Big Ben"; from the Prince Edward Theatre, Sydney, introductory music by the Prince Edward Concert Orchestra, conducted by Albert Cazabon, Eddie Horton at the orchestral organ; Albert Cazabon and Concert Orchestra. 9. Big Ben"; from the studio late weather forecast. 9.1: Reginald Hayward, baritone. 9.9: Madame Emily Marks, soprano. 9.18: Charles Lawrence, entertainer. 9.26: From the Prince Edward Theatre, Sydney, Albert Cazabon and Concert Orchestra. 9.40: From the studio, Madame Emily Marks, soprano. 9.48: Reginald Hayward, baritone. 9.56, Dorothy Dewar, soubrette. 10.4: Charles Lawrence, entertainer. 10.14: From the Ambassadors, the Ambassadors' Dance Orchestra (conductor, Al. Hammet). 10.34: From the studio, late weather forecast. 10.35: Dorothy Dewar, soubrette. 10.42: The Ambassadors' Dance Orchestra (conductor, Al. Hammet). 10.57: From the studio, to-morrow's programme and late news. 11: "Big Ben"; the Ambassadors' Dance Orchestra, in popular numbers until 11.45 p.m. 11.45: National Anthem; close down.

PATENT POOLING

Representatives of nearly two hundred radio manufacturers in the United States, members of the Radio Manufacturers' Association, have voted in favour of a workable patent pooling plan for the common utilisation of radio and electrical devices controlled by its members. "The patent interchange plans are by far the most important in the radio industry at the present time," said Mr. Geddes, executive vice-president of the Association. "The adoption of such measures will not force all the members of the Radio Manufacturers' Association to deliver their holdings for free use of the other members; rather this will be done only by those who are in favour of such an arrangement, for which they will be adequately compensated by those who make use of the patents. The plan will call for the utilisation of patents by all members who so desire them."

SO great is the carrying power of the short waves that an efficient two-valve shortwave set is capable of picking up signals from most countries of the world in, say, a twelve-hour constant watch.

Printed and published for the New Zealand Radio Publishing Company, at the registered office, Dominion Avenue, Wellington, of the Wellington Publishing Company, by Archibald Sando, of 47 Freyberg Street, Lyall Bay, FRIDAY, MAY 4, 1928.