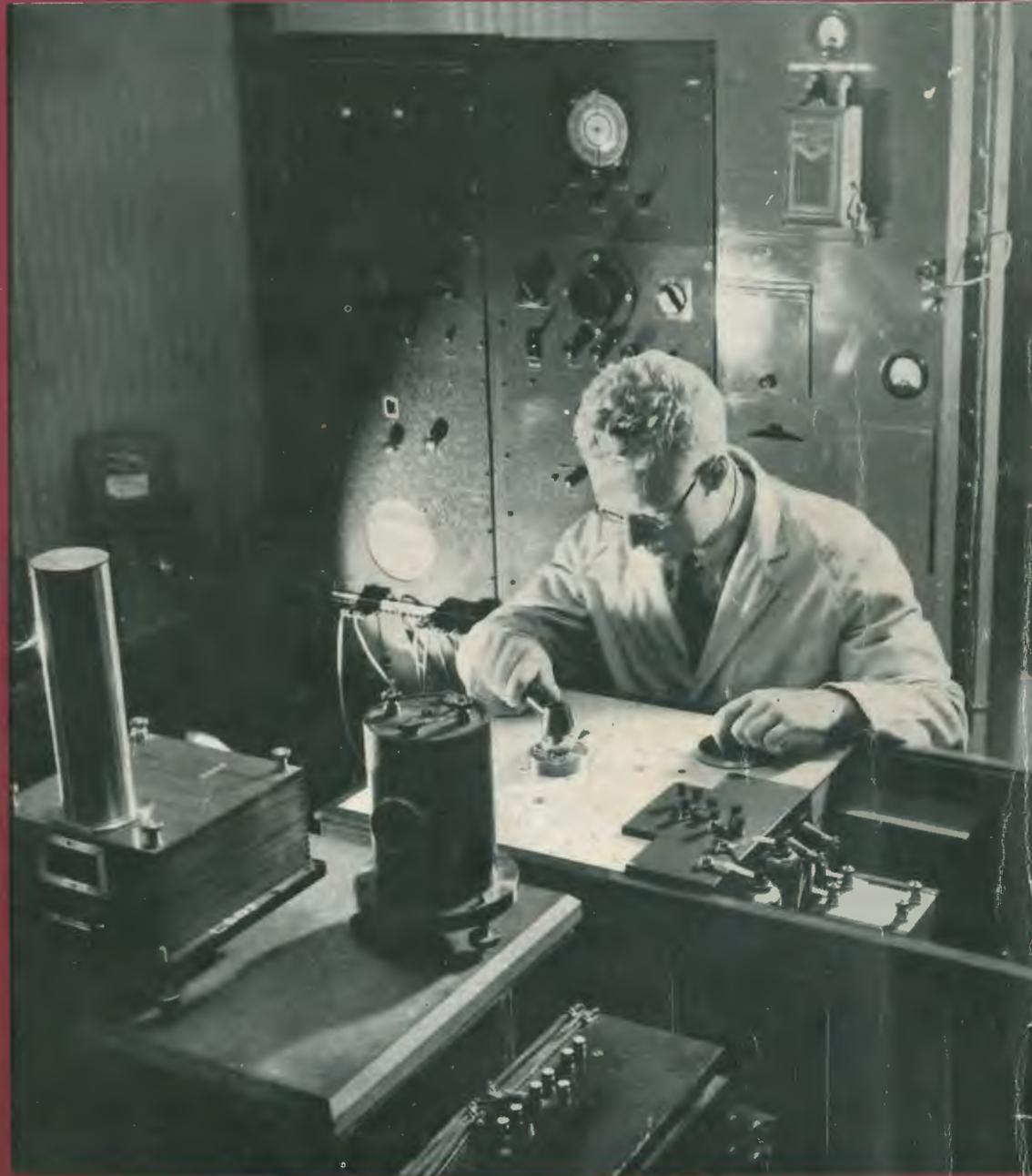


THE RADIOGRAM

STAFF
MAGAZINE
OF



Dr. G. Builder, at the A.W.A. Technical and Research Laboratory.

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JULY, 1936

Amalgamated Wireless (Australasia) Ltd.

Capital: £1,000,000

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THE RADIOGRAM

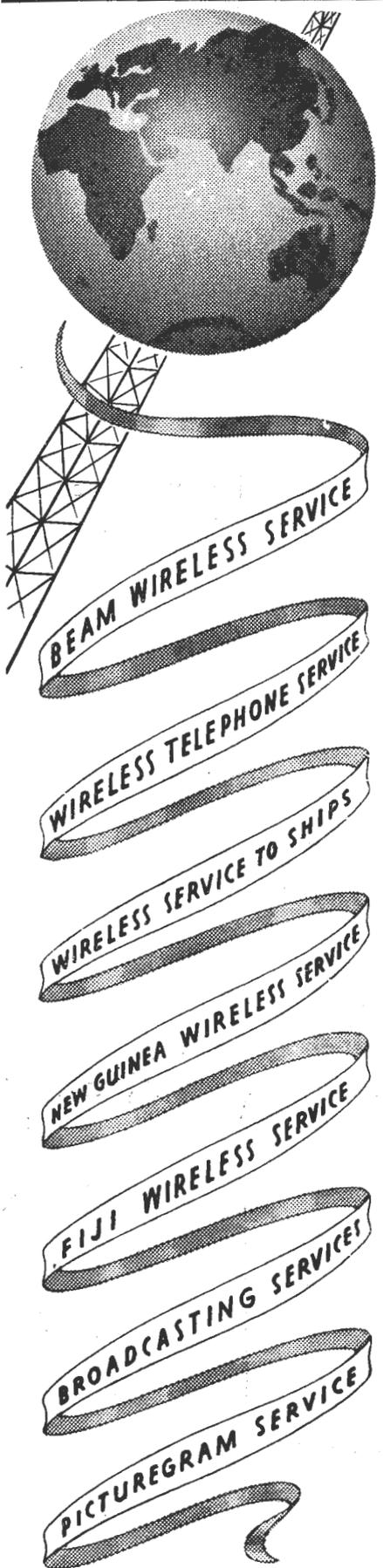
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THE STAFF JOURNAL of
AMALGAMATED WIRELESS (A'SIA.) LTD.

EDITOR - - F. W. LARKINS.

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The panel comprises eight specially designed broadcast receivers of high power output. Each receiver is kept constantly tuned to one of Sydney's broadcasting stations.

Further particulars of the system are set out on page sixty-three.

Centralised Radio System of the Hotel Australia, Sydney, recently installed by A.W.A.

FIRST RADIO BEACON IN AUSTRALIA

OPENED BY THE MINISTER FOR DEFENCE

THE first Australian Wireless Beacon for aircraft, established by A.W.A. at North Brighton, near Mascot Aerodrome, Sydney, was formally opened on April 27, by Sir Archdale Parkhill, Minister for Defence.

The purpose of the station, technically known as an Aural Radio Range Beacon, as explained by Mr. Fisk, is to enable aircraft to approach direct from a distance of up to about 200 miles, irrespective of the weather prevailing. The beacon is arranged to send out radio signals in four directions—towards Canberra, Newcastle and Dubbo, and across the Tasman Sea. Aeroplanes travelling towards Mascot aerodrome from any of those directions simply follow the beam, the pilot using an ordinary radio receiving instrument to keep him in touch. So long as the pilot is flying straight up the beam he receives the signals at equal strength, and they blend into a continuous dash. If he finds one signal stronger than the other, he knows he has gone off his course and must veer either to the right or the left.

Sir Archdale Parkhill, opening the Beacon Station, said the Government had studied closely the aerial needs of Australia, and hoped to provide a complete radio service for aircraft. It was recognised that this would involve the Commonwealth in the expenditure of large sums of money. Remarkable advances had been made in other countries, but a thorough study would discount any suggestion that Australia was backward in wireless communications. Two outstanding radio features were becoming most prominent for aviation purposes. One, the direction finder was used to ascertain the position and direction of aircraft approaching an airport; the other was the radio range beacon, which enabled an aeroplane to travel direct on its course. The former was established for the Defence Department by A.W.A. at the Essendon airport, Melbourne, two years ago, and had proved of outstanding value. The second had now been provided by Amalgamated Wireless. Experience would show how far and

in what manner these two aids to aerial navigation could best be employed in Australia. Probably it would be found that the best results would be obtained by a combination of the two systems.

"I have no doubt," continued the Minister, "that this installation together with the expert knowledge available, will prove of very great value to Australia. The fact that the service is being conducted by Amalgamated Wireless is a guarantee that the work will be efficiently and effectively carried out." He was sure that the establishment of the beacon station would result in many other stations of similar nature being erected in the Commonwealth. The Government was grateful to have at its command the very valuable and exceedingly expert knowledge of Amalgamated Wireless to assist in laying out a comprehensive organisation for aerial services developing throughout all parts of Australia.

At the invitation of Mr. Fisk, the Minister switched on the radio beacon, and an airman flying overhead demonstrated how a pilot would approach the station with the aid of the beacon.

The "Aural Radio Range" operates on radio frequency power of approximately 250 watts. It is suitable for transmission on wave-lengths between 950 and 1050 metres.

The aerial system comprises two loops placed at right angles with each other. The loops are triangular, the base being about 220 feet and the height 65 feet. The whole aerial system is supported by five wooden masts each 65 feet high. Four of the masts are placed at the corners of a square, the diagonal distance between them being approximately 240 feet, and the fifth mast is erected in the centre to support the loop aeriels.

Wireless beacon signals are not affected by rain, fog, darkness or wind, and therefore enable the pilot to fly on a direct course irrespective of the weather. For this purpose the pilot needs only an ordinary wireless receiver and a pair of head telephones.

The useful range of the beacon near Mascot is expected to be from 100 to 200 miles.



Group-Capt. A. T. Cole, M.C., D.F.C., Sir Archdale Parkhill, Messrs. E. T. Fisk and P. Hunter,

FIVE WIRELESS STATIONS

ON NEW M.V. "KANIMBLA"

ON May 28 last, Australian listeners heard on relay over the national network of stations the inaugural transmission from the first ship broadcast station in the world.

The programme came from the new 11,000 ton motor vessel, Kanimbla, while she was a thousand miles off the Australian coast, on her maiden voyage to Sydney from the builders' yards in Belfast. The Kanimbla is entering the Australian passenger service, and regular broadcasts will be given during voyages over 9MI—the call-sign issued to the new station.

The transmitter uses a power of 1.5 k.w., is crystal controlled, and is designed to operate on any wavelength between 20 and 50 metres, that used at present being 25.61 metres and 49.91 metres. The special studios are replicas of those used by leading stations overseas.

Three receivers are carried, one operating on 15/220 metres, a second on 185/3,000 metres, and a third on 3,000/20,000 metres.

The chief announcer is Miss Eileen Foley, of Sydney, who has already received hundreds of letters from listeners reporting excellent reception from 9MI, both direct, on short-wave, and via the national stations. During the voyage out, while the Kanimbla was off the west coast of Africa, the test programmes were heard at good volume in Australia, Great Britain and Europe, and so 9MI's regular broadcasts will be picked up by listeners in overseas countries as well as in Australia.

For the entertainment of passengers, an extensive public address system has been installed. There are 14 loud-speakers in all, and no less than three different programmes can be distributed throughout the ship at the same time. Some loud-speakers, for example, might be carrying sporting results picked up from a land station. Dance music from recordings might be fed through others, while a third programme could be the relay of a concert from one part of the ship to others.

Broadcasts from 9MI to listeners throughout Australia will not only in-

clude items and talks by prominent personalities among the passengers, but entertainment by artists engaged for different voyages. A special studio has been set aside for bands.

The programme that is being transmitted from the studio can also be relayed through the loud-speakers on board.

Apart from the broadcast transmitter, the Kanimbla's radio equipment compares favourably with that of any other vessel afloat of similar tonnage. For normal communications, two of the latest type valve transmitters are carried. One operates on the 600-metre band, and the other on short-wave. Both will be used for keeping in touch with other ships and with shore stations.

The 600-metre transmitter will be used over short and medium distances, and the short-wave for long-distance communication. On the voyage out, the latter station enabled the owners in Australia to keep in direct touch with the vessel, from the day she left Belfast.

In addition to the main transmitters, two of the lifeboats are fitted with small transmitting and receiving sets having a range of 200 miles or more.

An echometer depth-sounding device, that reveals automatically and instantaneously the depth of water under the ship's keel, is also carried, together with an auto-alarm receiver that keeps watch for distress signals while the operator is off duty. An SOS sent out by any ship within 200 miles or so would be picked up by the receiver, which would operate a relay, causing bells to ring throughout the ship. These could only be stopped by the operator going to the wireless cabin and taking up duty.

All the radio equipment carried by the Kanimbla was designed and built in Australia by A.W.A. and shipped to the builders' yards at Belfast, where it was installed under the supervision of Mr. Archie Baird, of A.W.A. Engineering Staff, who accompanied it.

On the voyage from Belfast to Sydney the M.V. Kanimbla was in direct short-wave communication with Australia.

FIRST AUSTRALIAN BROADCAST

The opening programme of the first floating broadcasting station in the history of wireless was heard by Australian listeners at 9 p.m. on May 28th. Despite the distance, the Kanimbla programme had to be transmitted it was relayed through the Australian Broadcasting Commission's national network with remarkable clarity.

The Prime Minister (Mr. Lyons) opened the Kanimbla's station by wireless from his home in Devonport (Tas.), when the Kanimbla was 1,000 miles off the Australian coast.

THE PRIME MINISTER'S SPEECH.

Ladies and Gentlemen,—When I was in Belfast last year, the ship-builders were getting busy on the keel and sides of the new motor vessel. Already the bottom plates were being put into place, and amidst a bewildering tangle of scaffolding and cranes and girders, the stark ribs of the new ship were raising their forms against the sky line. Some members of our party were privileged to visit the shipyards and stand within the framework of that ship. It was the Kanimbla! Now a proud member of the Australian Mercantile Marine.

While there, I was told that had the construction of the ship been far enough advanced, I would have been asked to launch her. So you will see that I have a very special interest in this new liner.

From her to-night you will hear a broadcast programme, and the occasion is unique because this will be the first time in the history of the British Merchant Service that such a programme has been broadcast from a ship at sea, and I think it is all rather wonderful. Somewhere in the ocean about a thousand miles from Sydney, the "Kanimbla" will send its messages over the air and listeners on land and sea will be able to hear the music and the voices that come from this remote and infinitesimal spot in the vastness of the sea.

I have inaugurated broadcast stations before, but never in such unusual circumstances. As I sit here I can, in imagina-

(Continued on page 6.)

M.V. KANIMBLA

Mr. C. E. C. Robinson, wireless officer of the "Kanimbla."

The transmitter has an anode power of 750 watts, and is of the master oscillator type designed to operate on the three commercial wave-lengths of 600/705 and 800 metres.



The broadcast transmitter of the "Kanimbla" uses an aerial power of 50 watts (unmodulated carrier), is crystal controlled and designed to operate on any wave-length between 20 and 50 metres.



The announcer's control table is fully equipped with turntable, microphone and monitoring receiver, with provision for passing the broadcast programme on to the ship's gigantaforte public address equipment.



Three-channel gigantaforte public address equipment which operates 14 loud-speakers throughout the ship. This will enable the reception of broadcast programmes, concert items and talks originating on the ship itself and dance music from records.

FIVE WIRELESS STATIONS (Continued)

tion, hear the swish of the waves against the ship's side and the gentle throbbing of the engines and almost feel the soft rise and fall of the vessel as she rides the waves. I trust that for the sake of those on board that the waves are not too high to-night, but like the short waves of the transmitting apparatus of the "Kanimbla," I hope they are all very short waves.

I am informed that test transmissions made from the "Kanimbla" on the voyage to Australia have been very well received in the United Kingdom, Europe, and in other places, and they have proved the effectiveness of this new broadcasting station, which already has done something to advertise Australia in other parts of the world.

There is a flavour of romance in this new floating broadcasting station which, operating on the short wave band, will send its programmes to the shore, there to be relayed through various land broadcasting stations.

I have often, while at sea, listened to wireless programmes transmitted from shore stations. Above the waters of Bass Strait I have heard descriptions of cricket test matches, and in the great expanse of the Indian Ocean I have listened to music which came across the ether from Australia. Now it will be possible to reverse that order of things. Listeners in Australia, in other parts of the world and on ships at sea, will be able to listen in to programmes broadcast from the "Kanimbla."

I take pride in being associated with the opening of this station. Not only because it is the first of its kind in the Empire, but more importantly, because it is the outcome of Australian enterprise and Australian workmanship. I have remarked before on the fact that, in radio development, we Australians have much to be proud of. We are well in the vanguard of world progress. Here is yet another example. The "Kanimbla," I am told, has the most up-to-date wireless equipment, not only in its novel broadcasting station, but in the rest of its radio equipment, which bears comparison with anything on the latest passenger liners of other parts of the world. The main wireless telegraph station, as you know, is invaluable to the aid of the safety of life at sea and in a score of other ways. In addition, there is a short wave station for long distance communication and also an emergency set for use in case the power for the station is unavailable.

Other equipment includes an automatic alarm receiver which keeps watch for distress signals when the operator is not on duty, and a very comprehensive amplifier system associated with 14 loud-speakers for the entertainment of passengers.

You will be almost inclined to wonder whether the "Kanimbla" is a liner or a radio depot, but the reason I mention these things is this. Every piece of the equipment was designed and made in Australia by Amalgamated Wireless (A'sia.) Limited, designed and made in our own country by our own people.

It was considered by the owners of the ship, who presumably are keen business men, that the Australian wireless equipment was of such a quality as to merit being shipped all the way to Belfast to be installed there in preference to all other makes on board the "Kanimbla," under the supervision of an engineer. Therefore, as an Australian, I say I take pride in being associated with the opening of this new station, and I wish it all the success which I feel it deserves.

Then from the Kanimbla was heard her theme song ("My Good Ship Kanimbla, With a Cargo of Good Wishes"). Her master (Capt. F. J. Smith) then described the features of the vessel.

Before beginning a programme of light music, the first woman "sea-going announcer" (Miss Eileen M. Foley) read the following message from the High Commissioner for Australia in London the Right Hon. S. M. Bruce:—

"In the realm of scientific achievement which began this century, nothing has been more remarkable than the development of wireless telegraphy and wireless telephony.

"As Australians we can take some pride in our efforts to be in the van of progress in this field of endeavour.

"It was Australia which first developed commercially the Beam wireless which is now such a big factor in communications, and once again Australia has given a lead to the world in establishing the first regular floating broadcasting unit. The broadcasting station which you are now hearing inaugurates a new sphere in ship to shore communications.

"The Kanimbla is the first ship of any nationality to be licensed for regular

broadcasting. I congratulate the owners on their initiative, and the Australian engineers on their skill in the design and construction of the station. It is my sincere wish that the Kanimbla will have a long and useful career."

Miss Eileen Foley, in the course of a short address from the ship, stated that whilst abroad she visited some of the principal broadcasting stations, including, of course, the B.B.C., Belfast, Dublin, the Rundfunkhaus in Berlin, Radio Luxemburg, Radio Paris, Radio Normandy and the African Broadcasting Company. During these visits remarkable interest was shown in the Kanimbla's broadcasting station. She was thrilled to be the first woman in the world to conduct a ship-board radio station, especially as it was on an Australian ship.

The station then broadcast the charming melody, "Raindrops That Patter on My Window," "Waltzes of Remembrance" and Beniamino Gigli singing, "Your Tiny Hand is Frozen," from La Boheme, concluding with "Good Night, Sweet Dreams Song."

A.W.A. AT ERDA BALL

The Erda (Electrical and Radio Development Association) Ball, which was held on May 5 at the Trocadero, Sydney, was a phenomenal success, over a thousand dancers being on the floor. At the official table A.W.A. was represented by Mr. and Mrs. E. T. Fisk and Mr. and Mrs. L. A. Hooke.

Parties were also taken along by Mr. and Mrs. J. F. Wilson, Mr. and Mrs. W. J. J. Wing, Mr. and Mrs. E. A. Horner, Dr. and Mrs. A. L. Green, Mr. and Mrs. P. Farmer, Mr. and Mrs. J. Chesterfield, Mr. and Mrs. R. G. Wright, Mr. and Mrs. W. Richards, Mr. and Mrs. C. M. Hillyar, Dr. G. Builder and Messrs. R. Jenkyns, P. Riley, K. Spinney, J. Moore, W. Fleming, P. Montague, J. Davis, E. Mathieson and D. Lindsay.

The A.W.A. table was most attractive, being florally decorated in gold, blue and red, and setting forth the A.W.A. monogram.

Around the A.W. Valve Company's table—at which an enormous Radiotron, surrounded by flowers in blue, silver and red, was the centre attraction—gathered Mr. and Mrs. H. Sharpe, Mr. and Mrs. Lambie, Mr. and Mrs. Freeman, Miss E. Sharman, and Messrs. S. R. E. Haworth and J. Calder.

AUSTRALIAN BROADCASTING SYSTEM BEST IN PAPUAN WILDS

States Mr. Fisk

Radio as Life Saver

IN an address at a gathering associated with broadcasting station 2CH recently, Mr. Fisk said he thought the Australian system of broadcasting the best in the world.

"No advertising goes over the air in Britain," he said. "In America it is purely commercial. In Australia we have both commercial and non-commercial broadcasting. I enjoyed the British broadcasts, but after listening every day I came away with a great preference for the Australian system. I listened to the American broadcasts, and again I came to the conclusion we had the best method. Neither of the systems is overwhelmingly superior to the other, but each builds up the other.

He hoped that they would never see the day when broadcasting was controlled solely in the interests of a political party, as it was in some European countries where listeners were actually compelled to listen in. In one country he had recently visited, a man was brought before the authorities and sternly reprimanded because he had cut off a broadcast. There were people who listened and watched and were prepared to give information to the authorities.

"In Italy," said Mr. Fisk, "45 per cent. of the broadcasting time is given to talks; in Germany, 27 per cent.; Norway, 25 per cent.; and in Britain, 17 per cent., and yet with that small percentage listeners in

HELP TO ARCHBOLD EXPEDITION.

Wireless is proving of great service to the Archbold Expedition which has been sent to North-west Papua by the National Museum of Natural History, New York, and is now in the wilds of that Territory. At least one life and possibly several have been saved by its instrumentality.

Mr. Ken. Frank, O.I.C., Port Moresby, reported that the Archbold Expedition had maintained communication with him for 560 miles up the Fly River, to the junction of the Palmer. The Expedition is using a small A.W.A. Teleradio unit which has been especially developed for use in country where everything has to be carried by porters. The Teleradio unit is supplied with power by a bicycle-like structure upon which a Papuan native seats himself and pedals as if on the cycling track. With this simple contrivance the advance party and the main body of the Expedition have kept in touch. During the long steam up the Fly River, the signals were quite good.

Mr. Frank mentions that throughout the trip, a sick member of the party on the Expedition's vessel, the Maira, was treated by radio from Port Moresby. Descriptions of his symptoms were communicated to Dr. Gibling, who prescribed the treatment, his instructions being radioed back to the explorers. The latest report indicates that the sick man is rapidly regaining his health.

Mr. Frank adds that this is the third case in which the A.W.A. Teleradio sets have been used in severe illnesses. The little radio installation is being taken off the Maira and will be permanently installed at the advance camp of the expedition, during the six or eight months, for which further period the explorers will be in the interior of Papua.



Mr. E. T. Fisk, with Mr. L. A. Hooke (left) and a friend, at the luncheon given by A.W.A. to 2CH advertisers.

A broadcasting system without advertising resembles a newspaper without advertisements."

Mr. Fisk said that his company was glad to be associated with Station 2CH, which was founded by the Council of Churches. While they might not necessarily be churchmen in everyday pursuits, they were sympathetic with the work of the churches. Through this station Amalgamated Wireless would be able to entertain people in every conceivable form, catering for the best in human nature. It would be a service appealing to the whole family.

Britain complained that there was too much talk. In Holland the percentage is 12, and it is remarkable that the Dutch stations are very popular in neighbouring countries. The reason of this is that they broadcast good music. Good music, not highbrow and not lowbrow, is the secret of success in broadcasting. The 'talks', if given, must be exceptional ones. There are some occasions when talks are more important than music. I refer to the Empire broadcasts. If we can hear talks by the King or a British statesman, then they are worth while listening to."

A.W.A. WORLD RANGE SHORT WAVE STATIONS.

TRANSMISSION SCHEDULE FOR JULY.

VK2ME, 31.28 metres.		Sydney Time.		G.M.T.	
Sundays	3 p.m. — 5 p.m.	0500—0700			
"	7.30 p.m.—11.30 p.m.	0930—1330			
Mondays	2.30 a.m.—4.30 a.m.	1630—1830			
VK3ME, 31.5 metres.		Melbourne Time.		GMT.	
Nightly					
Monday to Saturday	7 p.m.—10 p.m.	0900—1200			
(inclusive).					

BACK FROM THE AMERICAN SCENE

BACK after eight months amid the American scene, Mr. E. G. Bailey has acquired none of the lingual characteristics which distinguish the folk of God's Own Country. But he has learnt their art of "going into smoke"; and it was only after persistent effort that the Ashfield correspondent of "The Radiogram" at last succeeded in claiming a few moments of his attention.

Having heard the excuse for the intrusion, Mr. Bailey smiled, lit his pipe and became reminiscent. There was a frigid atmosphere running throughout his story.

Mr. Bailey's narrative began with the train from Vancouver (B.C.) climbing into the Rocky Mountains and bound for New York via Winnipeg and St. Paul.

"It was autumn—then," he remarked significantly, "and the foliage was blazoned with colour. Over there Nature seemed more extravagant with her brush than in Australia; the scene was magnificent—gaily-daubed growth fading away into the vastness of the distance, with a background of rugged ridges and snow-capped peaks.

"The Rockies are more massive than our Blue Mountains; they seem more forbidding and impenetrable, and their rugged grandeur has necessitated some particularly interesting engineering feats—the construction of spiral tunnels."

Mr. Bailey explained that these tunnels describe a complete circle. In one instance, the tunnel was three miles long and as the train left the exit, the conductor pointed out the entrance fifty feet below. After travelling three miles the train was no further ahead; but it had gained fifty feet in elevation.

The train journey to St. Paul via Winnipeg was a revelation in comfort and service—excellent meals, observation cars, lounges and a well-stocked library



MR. E. G. BAILEY.
of A.W. Valve Works.

From St. Paul to Chicago, Mr. Bailey travelled in "The Zephyr," a diesel-electric train which traversed the 550 miles at an average of 66 miles an hour, the highest speed being 90 miles an hour.

The 950 miles from Chicago to New York was accomplished at an average of 62 miles an hour in a stream-lined steam train of the New York Central line. And on this train the service even surpassed that of the Canadian. There was a barber's shop, bathroom and stenographer service, and if the latter were required, one merely had to press a button and along would come an efficient Miss, notebook in hand. And having dictated and signed the letter, there it could be forgotten, for mailing is arranged by the train staff. This is a general practice on most

long runs, and letters or telegrams, perhaps re-addressed from hotels, are delivered to passengers during the trip.

On his arrival in New York, Mr. Bailey said that the weather was quite agreeable—but it became rapidly colder and colder—and colder, developing into the worst winter that the oldest inhabitants had experienced, and Mr. Bailey declared that to say that it was miserable out of doors would be praise. There was snow most of the time—and in the intervals it thawed to be followed by inches-deep slush.

In January, train and air services were completely disorganised and roads were impassable for weeks.

In New York a gang of 50,000 men was set to work clearing the snow; but except in the busiest streets, no attempt was made to clear all the snow. In most cases, although the middle of the street was passable, snow was banked up at the kerbs.

Snow-ploughs were used extensively for clearing the streets, and if one was unfortunate enough to have left a car parked, it would be covered with snow as the plough passed. And there it would remain until the next thaw! In 76th Street six or seven cars parked together were completely covered. Then the temperature rose and the snow began to thaw. Another cold snap iced them in, and it was six or seven weeks before the hapless owners could move them.

From this it can be adjudged that motoring during a New York winter is a nightmare.

In Chicago the first experience of a real American winter was felt. For a month there the temperature did not rise above 30 degrees below zero! Happily Mr. Bailey was in Chicago only a few days; and he did not venture out of doors, except when it was absolutely necessary, and during those bleak days he had visions of a paradise across the other side of the Pacific.

Economic conditions had greatly improved in the four years since Mr. Bailey's last visit; and the general outlook was extremely bright for the future, while many businessmen were relieved that President Roosevelt's National Recovery Act had been declared unconstitutional.

A noticeable change in the city was the movement of the business quarter from "down-town," or Southern New York, to "up-town", the north of the city. Wall Street was thereby losing its traditional reputation as the heart of commercial New York, while the region around Radio City had become the hub of "big business."

The elevator strike, about which we heard so much in local papers, took place while Mr. Bailey was in New York. Some of the biggest buildings were completely closed down. As one can imagine, it would be somewhat fatiguing and inconvenient to climb forty or fifty flights of stairs! But most of the smaller structures, thirty storeys or under, managed to reduce the difficulties by having a messenger-boy on every seventh floor, so that parcels, telegrams, etc., could be relayed to their destinations.

There was no disruption of the elevator service in the Radio City structure, owing to the good conditions of employment. This amazing building was in the early stages of construction when Mr. Bailey was last in New York. Now it is fully completed and occupied, the National Broadcasting Corporation occupying nine floors, while most of the others are taken up by interests of the syndicate. Serial or feature programmes, which were being broadcast four years ago are still popular with listeners; while the "amateur hour" sessions hold the greatest interest.

Radio in the United States was found to be on a much sounder basis than during Mr. Bailey's previous visit—the average receiver price was higher, and the production of the cheap and real "midget" receiver on the decline.

"Air travel in the United States is as commonplace as train travel," said Mr. Bailey, "and their services are wonderful, the outstanding features being splendid ground facilities and the use of radio to the limits of its possibilities.

"In fact, in bad weather, pilots depend almost entirely on radio in navigation and

grounding their craft. Sleeper 'planes, accommodating 24 sitting passengers or twelve sleeping passengers, are now being extensively introduced, while major oil corporations have their own 'planes fitted with conference rooms for holding sales-meetings, while the machines are in flight. This is typical of the vast activity and enterprise of American business. Sales representatives of many organisations travel entirely by air."

Mr. Bailey was pleased frequently to meet Australians; and the hotel people, he said, made it their business to acquaint Australian guests of the arrival of fellow-countrymen, and to arrange introductions.

Washington appealed to Mr. Bailey. It is similar in lay-out to our own Federal Capital; but, of course, is more extensive. The building height has been limited to thirteen storeys, and the structures are generally particularly imposing. Early spring caused the flowering Japanese cherry trees to bloom; and it was more than pleasing after the atmosphere of New York.

In Los Angeles, Mr. Bailey appreciated the urge that moved New York businessmen to live in California on retiring—during the several weeks of the severest winter in other parts, with temperatures sometimes 60 degrees below zero, California was enjoying temperatures of 70 degrees above zero. It is little wonder that Mr. Bailey's Australian winter overcoat seemed like a light raincoat in New York and that it was not long before he had "gotten himself" a new one that was really warm. But he was still cold!

And cold was the reason for two of the strangest sights Mr. Bailey saw when in America . . . the ear-muffs worn by traffic-police; and fishing by the fireside!

The former, while appearing a trifle ludicrous, were really a necessary adjunct to a policeman's equipment, for an official of the law is not nearly so attentive to his duties when his ears are being bitten—even by Jack Frost.

It was from Lake Huron that Mr. Bailey brought his fish story. Despite the cold they fish in comfort there . . . no pitching boats, no long vigil for a nibble. No, sir! The lake was frozen, so the "wily guys" 'round Lake Huron way cut holes in the ice, there-around built shacks, in-

stalled ovens, and sat by the fire with their lines dangling in the icy waters below. And how those hungry fish bit! Mr. Bailey said that almost the whole frozen surface of the lake was dotted with little shacks, complete with smoking stove-pipe, and really phenomenal catches were made.

American people generally are becoming much better informed about Australia, which is almost invariably called "The Land of the Kangaroo"; but they still find it hard to accept the laugh of the kookaburra as fact, preferring to believe that the sounds they heard from 2ME are throaty tricks of A.W.A.'s announcers.

The Americans are wonderfully hospitable and will spare no effort to make strangers feel at home; and they have long since become impatient of the number of "rackets" practiced by underworld gangs. Now that sort of thing is practically at an end—mainly owing to the efforts of Edgar Hoover's "G"-men and to thoughts of the horrible seclusion of Alcatraz prison on a rocky island of Frisco Harbour. A prisoner in Alcatraz sees the four walls of his cell for horizons and beyond that—nothing. No visitors—only the very highest of Government officials are allowed to land on the island—no comforts, nothing but bare existence. Here Al Capone broods away his days with only the memories of his alfresco underworld kingdom to occupy his idle hours.

In the interim between Mr. Bailey's last trip to the States and his return, America has thrown out prohibition, and now times date from the repeal of the Act. Everything is since or before "repeal"—much as we say "since the War". Liquor can be obtained in most restaurants and stores, while hotels are closed between 4 a.m. and 6 a.m.

"The American business-man works extremely hard during the day, and plays extremely hard during the night," said Mr. Bailey. "His energy and ability to carry on is astounding; and he considers that the two hours that the hotels are closed is a confounded waste of time." Mr. Bailey added that he prefers the old-fashioned method of going to bed at night.

And out of all the experiences of his trip, there were two especially that Mr. Bailey enjoyed—his flight from New York to Los Angeles—and, on returning home, the first sight of Sydney Heads.

500 ATTEND MELBOURNE OFFICE 11th ANNUAL BALL

THE Staff Ball was this year held at Earl's Court, St. Kilda, on June 24, and was a brilliant success.

The special glamour which always distinguishes an annual ball was apparent, and throughout the evening the ballroom was filled with the laughing voices and merry chatter of the happy dancers. It was indeed an animated scene. The decorations themselves are worthy of special mention. Multi-coloured flags, streamers and balloons helped to add a gay note, while a warm and ruddy glow was shed by the richly and artistically shaded lights. Pictures representing the various phases of the Company's activities were hung around the hall and draped with colours, blue and gold. A novel and rather ingenious feature of the decorations was a mechanical device depicting the transmission and reception of wireless messages. The lilting music left nothing to be desired, while the supper and later, the buffet, played no small part in the evening's success.

BEAM MESSENGERS' PAGEANT.

A feature of the ball was a pageant carried out by members of the Beam Messenger Service. Smartly groomed and carrying a coloured banner depicting the various services of Amalgamated Wireless, these manly little fellows performed their evolutions with crisp and military-like precision. When they entered the hall, a wave of spontaneous cheering broke from the enthusiastic audience, and not until they had marched from the room with heads erect, did the applause subside. They were indeed a credit to the Beam Wireless Service, and to their officer in charge.

At a suitable interval, Mr. G. Apperley, our Victorian Manager, read out a message of greeting from Mr. and Mrs. E. T. Fisk. This, with other messages from Head Office, was received with plaudits of approbation. This year's staff ball was an outstanding success, and to the majority of those present, 2 o'clock came far too quickly. It was with feelings of regret that with the playing of the National Anthem they realised that the eventful evening had come to a close.



*Mr. and Mrs. Murray Johnson, and
Mr. and Mrs. G. Apperley.*

The staff social committee, with Mrs. G. Apperley as its President, and Mr. Murray Johnson as Chairman, is to be heartily congratulated on organising such an enjoyable function. No detail was overlooked. Although nearly four hundred were present, everything went smoothly from start to finish.

Praise is due to Mr. E. C. Havnes, the energetic secretary, and to Misses Heathcote (hon. treasurer), Thomson, Josephs, Sommerville, and Messrs. Rowe, Freeman, Muller, Stewart, Brown and Boord, members of the Committee, who were mainly responsible for the success of the evening.

The following were noticed amongst the happy dancers:—

Mr. and Mrs. G. Apperley (Mrs. Apperley wore a very becoming gown of dull black satin with pearls), Mr. and Mrs. J. Murray Johnson (dark brown velvet with sleeves of old gold), Miss Johnson (pink satin and silver), Mr. and Mrs. E. G. Brooke, Mr. and Mrs. A. C. Wells, Mr. and Mrs. H. G. Holmes, Mr. and Mrs. A. C. Warner, Mr. and Mrs. M. L. Shepherd, Mr. and Mrs. W. G. James, Mr. and Mrs. D. Worrall, Mr. and Mrs. J. M. Martin, Captain and Mrs. E. C. Johnston, Mr. and Mrs. A. Watkin Wynne, Mr. and Mrs. A. Gamble, Mr. and Mrs. R. Ramsay, Mr. and Mrs. A. S. Munro, Mr. and Mrs. A. Williams, Mr. J. Wood, Miss V. Boberski, Mr. and Mrs. L. Walker, Miss D. Rowe, Mr. and Mrs. Stan Ramsay, Mr. Noreast, Miss Aaron, Mr.

and Mrs. Alec Munro, Mr. and Mrs. Heathcote, Mr. and Mrs. Hughes, Mr. Anderson, Mr. and Mrs. S. M. Brown (wine velvet with black velvet cape), Mr. and Mrs. A. W. Steward, Mr. and Mrs. H. Prior, Mr. and Mrs. K. McDougall, Mr. and Mrs. S. Homberg, Mr. and Mrs. A. K. Wilson, Mr. and Mrs. C. A. Morris, Mr. and Mrs. J. Carew, Mr. and Mrs. J. Rowson, Mr. and Mrs. W. Hill, Mr. and Mrs. Wynne (chalk white), Mr. and Mrs. Boord, Mr. and Mrs. Hector Lemon, Mr. and Mrs. K. R. Greig, Mr. and Mrs. H. E. Rowe (ciel blue matalasse with shoulder spray of hand-made pink flowers), Mr. and Mrs. T. Spencer (black marocain relieved with silver lamé), Mr. and Mrs. Foxcroft, of Rabaul; and Mr. and Mrs. F. Stevens, Mr. H. Lamb, Mr. and Mrs. McDonald.

The Secretary of the Ball, Mr. E. C. Haynes, with Mrs. Haynes, Miss Muriel Hickson, Mr. W. P. Atkin, Miss S. Devlin, Mr. C. Enderby, Mr. and Mrs. Peter Sullivan, Mr. and Mrs. Ellery, Miss Lorna Heathcote (airforce blue marocain and gold lamé), Flying Officer G. Laming, Mr. and Mrs. R. R. Freeman (black panne velvet with matching coat), Mr. and Mrs. C. J. Featherstone, Mr. and Mrs. T. McGrath Connelly, Mr. and Mrs. E. Russell Wickham, Mr. and Mrs. Wilberforce Connelly, Mr. and Mrs. John Anderson, Mr. and Mrs. Ralph Callister, Miss Edna Yoemans, Mr. Noel Robb, Miss Marjorie Down, Mr. Tom Lang, Mr. Dave Fleming, Mr. and Mrs. A. J. Pringle (turquoise blue sand crepe trimmed with flame), Mr. and Mrs. Frank Forrest (black sequin and georgette), Mr. and Mrs. Kinnear, Mr. and Mrs. Lindsay Shepherd, and Mr. H. J. Neill, Misses Marion Galtry (midnight blue lace with cherry trimming), M. Somerville (cherry angelskin satin), Phyl Joseph (floral taffeta), Phyllis Thompson (green ruched net), L. Chambers, K. Graham; Messrs. G. W. Muller, W. Annand, G. Gordon, J. Jordan, R. Tucker, A. Rider, R. Tevlin, S. Augustus Nimbs, W. Bentley, Mr. and Mrs. N. Seabrook, Mr. M. Stewart, Mr. and Mrs. F. Davis, Mr. J. James, Mr. and Mrs. Hedley Tyler.



Mr. and Mrs. Pringle, and Mr. and Mrs. Frceman.



Misses Thompson, Joseph and Somerville.



Mr. and Mrs. Rowe, and Mr. and Mrs. Spencer.



Miss Thompson, Mrs. Apperley, Mr. Rowe, Mr. Boord, Mrs. Boord, Miss Heathcote, Mr. Brown, and Miss Joseph.



Miss Thompson, Mrs. Apperley, Misses Heathcote, Somerville and Joseph.



Mr. Harry Lamb and Miss Titmuss, Miss Vi Oaten and Mr. Neill.



Mr. and Mrs. Foxcroft (Rabaul), Mr. Johnson, Miss Johnson, and Mr. Anderson.



Mr. Atkin, Mr. Haynes and Mrs. Haynes, and Miss Hickson.

MELBOURNE STAFF BALL



Mr. Roger Fair, manager of 3BO, at the Microphone.



Mr. Arthur Hoad, one of 3BO's popular announcers.



Miss Betty Errington and Mr. Scott Griffiths ("Betty" and "John")



Mr. J. P. Banney, assistant manager, 3BO.



3BO STAFF IN STUDIO.

Miss Errington at piano, Misses A. Hurtable (standing), and E. Shipp (sitting), Messrs. Roger Fair, Arthur Hoad (technician), and Scott Griffiths (at microphone.)

STATION PERSONALITIES AT 3BO BENDIGO

DEVELOPMENT OF BROADCASTING DEPT.

JUST over four years ago the Broadcasting Department comprised a manager, typiste and office boy. To-day—well, here is the story:

Activities commenced in earnest with the establishment in June, 1931, of a Radio Advertising Agency. 3BO, Bendigo, was opened during the same month and proved to be the forerunner of many more stations under the control of the Department. Station 4TO, Townsville, went on the air in October, and before the close of 1931 the Agency business was firmly established. 1932 saw two more stations in operation—2AY, Albury, and 2GN, Goulburn. The Department also nursed station 2SM during its infancy, and did much to lay a solid foundation for this enterprise—now one of the most successful in Sydney. 2GF, Grafton, was opened in December, 1933, and 4WK, Warwick, in May, 1935. The next addition to the stations was 4PM, Port Moresby, which went on the air at the end of 1935. From March of last year the Department took an active interest in the management of 2CH, Sydney, and in April of this year took over complete control. A further station, ZJV, Suva, was opened in March, 1936.

Behind the enumeration of the broadcasting stations set out above is a story of work by the management of A.W.A. and the various members of the Broadcasting Department, who assisted in the remarkable growth and development of what is now one of the largest departments of A.W.A.

The Broadcasting Department secures advertising contracts in Sydney and Melbourne not only for A.W.A. country stations and 2CH, but for other stations in various parts of the Commonwealth.

Its small army of salesmen regularly contact all business houses who advertise, and lay before them specially prepared proposals designed to meet the needs of the business in question. Most careful thought is given a proposal before submission, for it is realised that the prospective advertiser is being asked to spend money, and the proposition must be one from which he can see a reasonable prospect of business in return.

Advertisers usually require accurate and

detailed information regarding the market in which they are being solicited to advertise.

Advertising rates for every commercial station in the Commonwealth are kept at the Sydney and Melbourne offices of A.W.A. In addition, a general record of each station's activities enables the Department to supply advertisers with the information they require at short notice.

Frequently a contract covering twenty or thirty stations is secured. This is termed a "master" contract, and upon its receipt a separate contract, on behalf of the advertiser, is made with each station. The Broadcasting Department prepares the "copy," distributes it to the stations concerned, checks the advertisements broadcast through the various stations and gives attention to any improvement, that can be effected.

In the Sydney studios many types of programmes for advertisers and special features for the stations are recorded and forwarded to the stations.

Radio advertising is new and the operation of a Broadcasting Department is rather nebulous to many people. If you imagine the Broadcasting Department as a huge radio newspaper office with information coming in and being transmitted to all points of the compass, you will gain some idea of the activity that is taking place. Last minute rushes are frequent. Advertisers will often delay their final instructions until just prior to the mail closing—then it is a case of "get to it, boys." Letters have to be dictated and typed, contracts drawn up, copy checked, programmes dispatched, instructions telegraphed, and trunk line calls made to stations all over Australia. It is all part of the job, and the Broadcasting Department can be relied upon to carry it out—speedily and efficiently.

All of the Company's own stations receive their supplies of gramophone records, stationery, technical equipment, etc., from Head Office, Sydney. Many thousands of records are purchased annually for our various stations, and this is quite a job in itself. New releases are watched for, and suitable records purchased. Dramatic script and electrical transcriptions also form part of our stations' programmes,

and we are kept busy reading and selecting suitable material which will not be too costly to sell, nor too cumbersome to produce.

All stations look to Head Office for direction on matters of policy and guidance and information regarding the latest trends in commercial broadcasting. All this information is supplied and as a result our stations are always well to the fore.

The stations controlled by the Department derive their revenue from advertising, as do all "B" class stations. Advertisers may contract for direct announcements (100 words or less) or for sponsored sessions.

Selling sponsored time consists of much more than merely having the advertiser sign a contract, although at times this is quite a feat in itself. First, you must have suitable time to sell—a man very seldom spends ten or twenty pounds for a session when most people are asleep. Next you must have an attractive programme to sell. This may be either an electrical transcription of 15 minutes' duration, whereon is recorded a play or some other form of entertainment, or it may be a production utilising flesh and blood artists using specially written radio script.

Whatever form the programme takes, a great deal of preliminary work is necessary before the "show" goes on the air. The advertiser will require one or more auditions before he is satisfied that the "show" being sold him is really good. Next comes the preparation of suitable "copy". This is essential. It is the advertiser's message, stressing the quality or the price of his goods. Writing convincing selling copy is an art in itself.

Let us assume that the advertiser has "signed up." Rehearsals for the production now commence in earnest. The Production Manager puts his actors through the show time and time again until he is quite satisfied with their performance. Finally a "full dress" rehearsal is given—exactly as it will go over the air. Next, the listener hears the "show" and everyone concerned hopes that after hearing it he or she will go along and buy the product advertised. Whether the show is produced by "flesh

DEVELOPMENT OF BROADCASTING DEPT.

(Continued)

and blood" artists, or whether it is recorded, the same amount of work is incurred.

Short announcements of 100 words or less are not so difficult to write—the essential factor is that the copy will lead the listener to take action. No matter how good the copy, unless the announcer puts life and action into his words it will have little pulling power.

Even when the advertiser is on the air, the job is not finished. The Broadcasting Department has built up an efficient scheme whereby reports and other useful market information are obtained from those people handling the advertiser's products. In many cases the advertiser may not have a direct agent in the district where his goods are being advertised. In such cases the reports secured and sent to us by our station managers prove invaluable to him. The scheme embraces reports on sales from individual traders, window displays, appointment of agents—and other services of value to the advertiser.

Mr. V. M. Brooker, manager of the Broadcasting Division, is the man who directed and outlined the main part of the Department's activities. Ever willing to impart his expert knowledge to those under him, he has been able to build up a staff who are equal to the best in Australia. His judgment is reflected in the progress made by each of the stations, the success of which depends, to a large extent, on the officer-in-charge.

Mr. Brooker has now taken over the management of 2CH, and already that station has been lifted from a relatively minor position in commercial radio to a foremost place. Mr. Brooker visited America a couple of years ago, and established a strong connection for the Company with the National Broadcasting Co., Inc., who supply us with material of an outstanding nature for use on our many stations. He also saw the possibilities of disc recording, and this section of the Department is now well established. Already many excellent series of electrical transcriptions have been made, and these may be heard quite frequently from 2CH and our other stations.

BROADCASTING DEPT. PERSONNEL

MR. V. M. BROOKER.

Mr. V. M. Brooker is 37 years of age. He graduated at the Marconi School of Wireless, and joined A.W.A. in 1917. In 1920 he was attached to the experimental wireless station at Koo-wee-rup, Victoria. He was chief wireless officer on the "Jervis Bay" in 1926, when the world's record for radio communication was established. Not only was the vessel in touch with Sydney throughout the trip to England, but when the "Jervis Bay" was located at Tilbury Docks, direct communication was maintained with the A.W.A. station at La Perouse. Mr. Brooker was manager and chief engineer of 7LA, Launceston, from 1931 to 1933, and was appointed manager of the A.W.A. Broadcasting Department in July, 1933. He is a member of the Institution of Radio Engineers (Aust.), the Institute of Radio Engineers (America) and the Institute of Wireless Technology (London).

Mr. D. G. Donald, who has been with the Department since its inception, has built up a large and valued clientele and is one of the best known radio advertising salesmen in Sydney. Being a Scotchman, he hangs on to his clients, and the "canny" way he induces them to keep on signing contracts is remarkable.

Messrs. G. McGuinness and B. Stapleton are also stalwart workers, both having established their reputations as expert salesmen.

Mr. A. Stone has recently been transferred from Head Office Accounts, and is now the Broadcasting Department's Accountant. He is very busy gathering together knowledge of the Department's many ramifications. He has for his assistant Mr. C. L. Sunderland, who keeps a close eye on the number of announcements or sessions to be charged to our many clients.

Mr. R. Stewart takes care of the statistical section and superintends the distribution of electrical transcriptions to many stations. He is also an expert copy writer and does good work in this connection.

Misses M. Chilton and T. Hay have been with the Department for a number of years, and have typed many varied and important letters and articles for the De-

partment. The former has now been transferred to 2CH as typist to Mr. Brooker, and the latter acts as typist to Mr. Harris.

MR. R. K. HARRIS.

Mr. R. K. Harris joined A.W.A. on May 9, 1927, as a messenger boy in the Sales Department, and was later employed on clerical work in that department. In June, 1929, was transferred to Head Office—Purchase Accounts section. A year later he was transferred to the Sales Department as assistant to Mr. Spinney, Sales Accountant, and in June, 1931, was transferred to the Broadcasting Department in the capacity of Accountant.

Very soon he took an active interest in the Sales side and for some time divided his efforts between accounting and devising ways and means for securing further business for our own stations, in addition to every other commercial station throughout Australia. He has met many "queer" customers; "racing urggers," who have urged him in vain for a reduction in rates to bring their message to the people—a message which they state is of national importance (providing their selection wins!) Various religious bodies, all anxious to place their story before the public, fanatics anxious to reform Australia, people with messages to broadcast for missing relatives and friends, "quacks" with remedies to cure every ailment known to man—in fact, people from all walks of life who are drawn to broadcasting like iron is to a magnet. His knowledge of radio advertising combined with tact and courtesy in dealing with advertisers and people who come to the Department for service and information, enable him to render good work for the Company. He is now in charge of the Radio Advertising Department (a sub-section of the Broadcasting Division), handling the greater part of the radio advertising agency business, and administering to the needs of our many country stations.

MR. C. T. SPROULE.

Mr. C. T. Sproule is in charge of the Radio Advertising section of our Melbourne office, and with his cheery smile and capacity for hard work, has succeeded in building up a very substantial agency business in Melbourne which has proved a valuable adjunct to the Department's activities.



BROADCASTING DEPARTMENT STAFF.

Messrs. G. Kimberley, V. M. Brooker, H. Johnston, C. L. Sunderland, C. Fergeson, A. Stone, R. Stewart, R. K. Harris.
Misses T. Hay, E. Dalton, E. Cornwell, M. Chilton.

We extend a welcome to Misses E. Dalton and E. Cornwell, typing section, and Master Colin Ferguson, message boy, who recently joined the Department.

The Broadcasting Department's engineer is Mr. Hec. Johnston, whose duties of late have been arduous as well as varied. With the assistance of Mr. T. A. McNeill, Mr. Johnston recently installed the new 2CH transmitter at Dundas, and is now engaged on the installation of new studio equipment.

Mr. P. M. Farmer is recording engineer for the Broadcasting Department, and during the past twelve months has accomplished many fine works. New apparatus has been installed and Mr. Farmer

has mapped out a big programme for this year.

A.W.A. Short Wave Stations VK2ME, Sydney, and VK3ME, Melbourne, come under the Department's control. Mr. Don Hill is the announcer for VK2ME, and the response to his appeal for reports on reception throughout the world have been remarkable. Since January of this year, approximately 10,000 letters have been received from all parts of the world, commenting on the excellence of the VK2ME transmissions.

Mr. Lloyd Jones handles the microphone at VK3ME, and he also has, to a large extent, been responsible for the thousands of letters which have come to us reporting on VK3ME transmissions.

Mr. H. E. Cox, 4TO, Townsville.
Mr. H. J. Lewis, 2GN, Goulburn.
Mr. J. Dower, 2AY, Albury.
Mr. F. Pearce.
Mr. A. Lawrence, 4WK, Warwick.
Mr. Roger Fair, 3BO, Bendigo.
Mr. C. E. Coldwell-Smith, 2GF, Grafton.
Mr. F. M. Basden, 4CA, Cairns.
Mr. K. Frank, 4PM, Pt. Moresby.
Mr. F. Exon, ZJV, Suva.

Progress is the slogan of the Broadcasting Division, and those in it take pride in the work that has been accomplished, and one and all are doing their part to retain and extend leadership in this section of the Company's activities.

PORT MORESBY RADIO STATION

(By C. F. DALE)

Mr. C. F. Dale was at Port Moresby Radio for three years, but is now attached to the A.W.A. Radio Centre at La Perouse.

PORT MORESBY is approximately 570 miles south of the equator, and for a tropical place is fortunate, in as much as it is situated in what is termed the "dry belt". It is not subject to almost daily rains, as is the case in most tropical climates, but has two distinct seasons, the dry lasting usually from the end of March to early in December. During these months there is little or no rain, and strong south-east winds prevail. Having no rain means, of course, that we are not greatly troubled with mosquitoes, whilst the south-east wind keeps the place comparatively cool. The only objection to this dry season is that towards December the water supply is such that most people are loathe to have a bath, as the water may later be required for drinking.

During the wet season there is seldom a full twenty-four hours without rain, so that the hot sun between showers means a very high humidity. At this time one spends a considerable portion of each day in shaving the whiskers off one's shoes, and brushing mildew out of clothing, to say nothing of the time spent imaging what it would feel like to be really cool again. However, as day follows day one become more or less resigned to the heat and its attendant discomforts.

Port Moresby Radio (VIG), owned and operated by A.W.A., is a station of which Papua and the Company may well be proud. From a staff point of view it offers perhaps a greater variety of work than any other A.W.A. coastal or island station.

The daily routine includes the following:—

Schedules on various short waves with Sydney, Samarai, Wau, Salamaua, Guinea Airways Station, Wau, Townsville.

Short-wave telephony with small out-stations located at Yodda, Lakekamu, Oroville and Strickland River.

Long and short-wave aeroplane work.
600-metre ship work.

Broadcasting Station 4PM.

The apparatus installed on the station includes:—

A Standard 5K.W. CK/ICW coastal transmitter.

High-speed short-wave transmitter, 15/90 metres, consisting of the following units: rectifier, drive, absorber, Nos. 1, 2 and 3 magnifiers, the latter coupled by feeders to tuned half-wave aerial, complete with reflector.

Type "R" transmitter complete with modulator.

30 watt CW/phone transmitter with a wave range of 17/45 metres, and 300/750 metres.

100 watt broadcast transmitter with crystal control, also complete studio amplifying equipment, and announcer's table on which are installed two electric turntables and pickups.

The small out-stations mentioned above are all A.W.A. pedal driven sets (10-watt C/W. 5 watt phone). These sets are guaranteed to work up to a distance of 100 miles, so that when one realises that the base camp of the Oroville Dredging Company, on the upper Fly River, a distance of 500 miles by air line from this station, have not failed once to communicate with us daily, the value and efficiency of these sets can be understood.

Whilst on the subject of the Oroville Co's. sets, one incident worthy of mention was the departure of the Expedition from Moresby on the ketch Veimauri, on which one of the pedal sets had been fitted for use during the trip to the base, which was expected to occupy approximately twenty-one days.

On the second day out from Moresby particularly rough weather was encountered in the Gulf of Papua. When 50 miles south-east of Yule Island the engine of the Veimauri stopped, and no amount of coaxing would entice it to start again. The boat being very heavily loaded, the position became rather serious. The wire-

less was brought into action and communication established with this station, with the result that a relief boat with engineer and spares was dispatched to their assistance within an hour. The performance of riding the bicycle with the boat plunging and rolling in the heavy sea was no mean feat.

Another episode in which this set played an important part was the search for the Oroville Co's. seaplane, which was forced down on the Fly River. Had there been no wireless communication with Oroville, the seaplane would have been missing for probably two months before it would have become known.

The Lakekamu and Yodda sets have also played their parts in the well-being of those people resident in these isolated spots.

The aerial system is suspended from five steel tubular masts and two lattice towers, all aerials with the exception of the long-wave receiving are tuned and led into the station by a network of feeder lines. The power for all motors is derived from the town supply, and should this fail at any time, we have a Chapman petrol engine installed for emergency purposes.

The staff consists of two operators, Messrs. K. T. Frank and C. E. Searle. There are also three native boys attached to the station. These boys have been educated at the Mission Schools and are most useful on the station, although at times they try one's patience just over the breaking point, after which we usually have a few weeks' peace of mind. I am called upon to settle their disputes, domestic and otherwise, and at times derive great amusement from their troubles.

To the operators of this station, Moresby offers a variety of diversions for spare time (if any), namely, golf, tennis, cricket, fishing and good kangaroo, duck and pigeon shooting, at the right times of the year. Taking all things into consideration, life in the tropics is not so bad, after all.



Receiving Offices and
Transmitter Building of
Port Moresby Radio.



Messenger Boys at Port Moresby
Station.



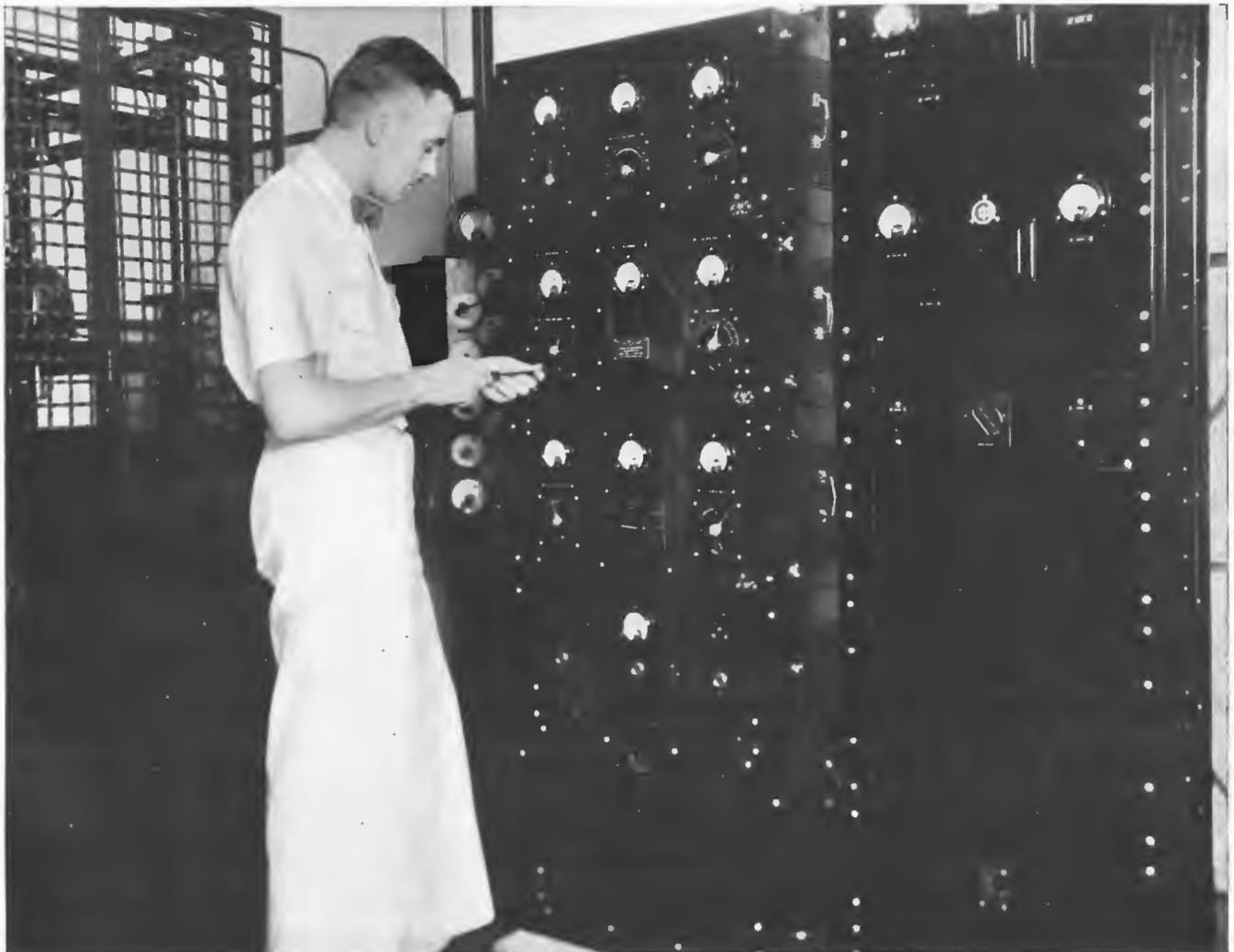
Standing: Messrs. C. E. Searle and K.
T. Frank, of Port Moresby Staff. In
the centre is Mr. Lewis Lett, who has
been very successful in the writing and
production of plays for Broadcasting
Station 4PM.

PORT MORESBY RADIO



Mr. C. E. Searle at the A.W.A. Broadcasting Station, 4PM, Port Moresby. Excellent reports are being received from various parts of Australia and New Zealand, remarking upon the splendid quality and strength of this Pacific Islands Station.

4 P M
P O R T
M O R E S B Y



Mr. Fisk's Address at Rotary Club Luncheon

MR. FISK addressed members of the Sydney Branch of the Rotary Club, on June 9, and we are pleased to publish his remarks.

While on my way here to-day one of your members suggested to me the connection or the relationship between wireless work and the work of the Rotary Club. Perhaps there is more than a connection or a relationship in the similarity of the word "radio" and the word "rotary".

I understand that one of your principles is the establishment and the maintenance of international unity and international understanding, and it was suggested by your member that the work you are doing is similar to the work that radio is doing to-day in establishing international unity and international understanding.

We are inclined to believe, I am sure, from time to time the things we read in our newspapers, that international unity might ultimately be established by means of the bayonet, rifle, machine gun and poison gas; but although that does appear so, I am convinced that those methods must ultimately fail, but the method of radio communication will be one of the most powerful means of establishing international unity and understanding.

What can be more powerful than a medium which, even to-day, makes it possible, truly in a limited sense at the present time, and more increasingly does make it possible for one individual in any part of the world to simultaneously address at least 150,000,000 of the inhabitants of this earth. That is the situation at the present time and it is going to develop more and more. Now that has come, not from the struggles of the political affairs of mankind, nor from the activities of commerce, but out of the scientific knowledge of the fundamental laws of nature; and because it is coming from these laws, it is a thing which I am convinced is going to extend more and more, and by the use of fundamental laws is ultimately going to overcome all the difficulties that the world is faced with to-day.

It is nearly 30 years ago since I first listened to the human voice and to music carried by wireless waves, over a very

short distance of two miles only. Yesterday we had the human voice carried to the ends of the earth. By means of the ordinary telephone installed to-day in your homes and offices you can speak to-day to anyone of over 30,000,000 telephone subscribers in other parts of the world. You cannot do it all day, in fact, you cannot do it every day, but most of the days in the year and for many hours of those days you can ring a friend in Glasgow, Buenos Ayres, or anyone on the Continent and talk to him with as great facility as if he were in one of the suburbs of Sydney. That is what is called the wireless telephone.

The most spectacular achievement up to date of this kind is what is called broadcasting. That is the means of mass entertainment primarily. It stands or falls as a means of entertainment. There are in some directions confused ideas on that point, but so far as I can judge with broadcasting, if it does not succeed as a means of entertainment, it does not succeed at all.

Entertainment is sometimes sacrificed to the political uses of broadcasting. In some countries it has become necessary for the Government to endeavour to make it compulsory for people to listen. The reason is that people want to be entertained and they do not want to listen to political affairs. These great means of entertainment, which must succeed on that ground, are the means by which human unity and understanding are coming about.

You can listen to London, Berlin, Moscow, New York and Paris giving you entertainment. With that entertainment they give you a certain amount of what they call news—some genuine news, but a great deal of propaganda. This thing is being misused, but the beneficial uses are overcoming all that, and the beneficial results of this great means of mass communication throughout the world will overwhelm every attempt to use it improperly.

Now you want something on the subject of television. The human people of the world are never satisfied with one achievement, but look for the next. You can hear with your radio sets in your home. Now you want to see something. Perhaps some of you, but not members

of the Rotary Club, want to see things you should not see, but I can assure you that, through this same medium of the ether you will eventually see events as they occur in your own home. To-day it is possible, but only as a technical novelty. It will be quite a number of years before it reaches the stage of a useful public service. I should say at least 10 years, but it is difficult to be dogmatic on such a point. However, it is a certainty of the future, although a considerable uncertainty at the present time.

The means to be employed to give us this are to-day being employed for the transmission of still instead of moving pictures. You have grown accustomed to seeing pictures in your newspapers in the morning, which have been transmitted from London overnight. To-day it is possible in a period of from 15 to 20 minutes to transmit a fairly large photograph by wireless from London to Sydney. Now this is done, as I said, in the period of 15 to 20 minutes. The great problem of television is to send you a complete picture in about 1/25th part of a second. There is great difficulty which will ultimately be overcome, but will not be useful as a public service for some years.

RESEARCH LABORATORY

Dr. O. O. Pulley, who joined the staff last year has been transferred to the transmitter section at the Works.

Messrs. John Raymont and Walter Finlay both obtained their leaving certificates last year and are taking diploma courses while working in the Laboratories.

The following appointments have been made to the Senior Staff:—

C. P. Healy, B.E.E. (Melbourne), who has had a wide experience with several Australian radio manufacturers. He is taking over all the Research Laboratories special development and research on receivers.

R. H. Healey, M.Sc., has been engaged on research on the properties of gases at Sydney University since he obtained his degree some two years ago. He now looks after all the precision measuring equipment in the Standards section of the laboratories and other associated problems.

IMPRESSIONS OF FIJI

SUVA! It was my first glimpse of the tropics. Varying descriptions of the place had stimulated my curiosity. I did not quite know what to expect, but after viewing the surroundings as the ship slowly moved down the bay, I knew that justice had not been done to the scenery. About half-way across, the bay was broken by a foaming white line where the waves rolled boisterously over the Coral Reef—accentuating the blueness of the water, dazzling in the early morning sunshine. Near one of the harbour beacons which outlined the reef, could be seen the partly submerged skeleton of a wrecked ship.

There were several islands in the distance. The two on the extreme right were pointed out as being the European and Indian Quarantine Stations, but were rarely used for that purpose, being better known as picturesque holiday resorts. The large island, somewhat to the rear, was Beqa. On this island lived the Fijian Fire-Walkers: There were other Fire-Walkers, both Indian and Fijian, but these were supposed to be the best, and gave performances at the Mekes held on the mainland. At this stage one of the passengers who lived in Fiji told us that the long, slender canoes with the fragile platform arrangements extending from the side were Fijian fishing canoes, and the large, open boats—trailing one after the other, about five or six in number, and laden with bananas—were coming in from outlying islands with their fruit for export. Our attention was now drawn to the mountains on the left, the colourings of which were glorious. They were smothered with vegetation of every conceivable shade of green, merging into a rich, dark purple, where the low-lying clouds cast their shadows: Several of the mountains, penetrating their summits into these clouds, kept us wondering as to their actual height. Traceries were made by occasional masses of brilliant red—probably the flamboyant tree—and strips of reddish-brown land under cultivation. It didn't take me long to extinguish my illusions regarding the vivid colourings in tropical pictures being exaggerated. We passed several native villages tucked away at the foot of the mountains. These comprised a number of bures—one-roomed huts of wooden framework covered with grass and palm-leaves, and many of them had fish-fences

built some fifty yards from the shore. These fences are made of saplings placed closely together, and have three sides only—the side facing the shore being left open; the fish are trapped when the tide recedes.

This interesting and colourful article on Fiji was written by Miss Fay Fryer, who a few months ago left Sydney to take up duties with The Fiji Broadcasting Company.

As we approached the wharf the ship swung around and we gazed upon Suva with her red-roofed buildings and gracefully swaying palms scattered over the hill. Buildings—mostly white, and interspersed with lawns and gaily coloured flowers—fringed the foreshores for about half a mile. From amongst the trees the Union Jack was flapping a welcome.

Our attention became occupied with wharfside activities. We looked upon rather an overwhelming mixture of humanity—Fijians, Indians and Chinese, with a sprinkling of Europeans. Most conspicuous were the Fijian policemen, immaculate in white sulus (skirts) and gold-buttoned navy-blue jackets. We speculated on the identity of the large Fijian in white breeches and shirt, swinging a cane and smoking what appeared to be a generous wad of brown paper—the self-assigned King of Fiji we were told.

Some lady friends were sighted on the wharf sheltering under parasols and looking delightfully cool in their semi-backless frocks, hatless and stockingless. When one of the girls said she would have to depart to her office before the boat berthed, I smiled at the thought of the furore such attire would cause in an Australian office. The gangway lowered, there was an immediate rush of native porters who were soon busily engaged removing luggage in amazingly large quantities. They went about their work with a splendid display of assurance, which was hard to share as I anxiously watched my luggage disappear, swaying precariously on a huge black

shoulder. After weaving my way through the groups of people congregated in the passageways of the ship, and stumbling over numerous cases and parcels, eventually arrived at the Customs Office, went through the usual procedures, and made my exit from the wharf.

It took quite a while to absorb all the details of my surroundings. A long line of luxurious taxis occupied the centre of the roadway, instead of the few antiquated relics I had anticipated. The opposite side of the road was lined with numerous small temporary shelters, where the apparently perpetually smiling and flower-bedecked Fijians were conducting a brisk trade with the tourists. Their stocks were very assorted—there were pieces of brightly-dyed coral, multi-coloured beads, raffia baskets, shells, fans, and many other souvenirs. Endeavours to make a sale were extremely determined. Several small imps tugged fiercely at my skirt, and tiny black hands, clasping ropes of bright beads were thrust out for my inspection. Delayed my purchase for several seconds to enjoy the expression on their eager little faces and then produced the "shillini" requested in exchange for a necklet. I was immediately deserted—even the elder vendors must have deemed it rather early for a second attack.

The unaccustomed odour of coconut-oil, with which the Fijians unstintingly smear themselves, intermingled with the smell of copra, was rather overpowering. Decided to wait in the car for my friends. Couldn't help noticing that the occupants of passing cars were indulging in what appeared to be quite a lot of unnecessary, half-hearted hand waving, considering that there were only about two people in the vicinity who made no attempt to respond. Enquiries revealed that this is the local traffic-sign for pulling up, slowing down, or turning to the left.

I drove through the town to the Grand Pacific Hotel, whose grounds are a mass of beautiful flowers and palms. We were attended to by a smartly-dressed Indian waiter in long white trousers and tight-fitting jacket with a slightly flaring basque, small cap, and a blue cummerbund. Like the Fijians, he was shoeless. Rather liked hearing the pat pat pat of bare feet, and this remark elicited the information that

Europeans are called "Kai Vavalagi"—belong to the land where they wear boots.

From here we drove along Cakobau Road, and incredible as it may seem, this was pronounced Thacambau Road. Frangi Panni, both pink and cream, was growing plentifully, and in places the ground was covered with a softly perfumed carpet where the blossoms had fallen. Suggested gathering some, but apparently these flowers are not appreciated, as I was told they were only used for wreaths. Further along two Indians were cutting grass with the most barbaric of implements. In one hand they wielded a large cane-knife and the grass was pushed to one side with a stout stick held in the other hand—rather tedious work.

Eventually arrived back in the town, on the suggestion that a visit be made to the native quarter. To me Suva no longer appeared attractive. We walked along a narrow, crooked street, filled with a grimy collection of small shops huddled closely together. Felt sure that we were being eyed with evil intent, and wanted to hurry through as speedily as possible, but my companions were enthusiastic and insisted on entering one of these miniature "Black Holes of Tarcutta". It was the workshop of an Indian "Silversmith" who squatted on the floor working with pieces of silver wire. He displayed his wares, prices were discussed, and a silver bracelet—having more the appearance of lead—was purchased.

There were two distinct types of Indians—some wore turbans and carried villain-

ous looking curved knives, and the others were like walking advertisements for a jewellery store, both the men and women wearing very ornate ear-rings and rings, the women further adorning themselves with nose ornaments—like filigree buttons—heavy anklets, bangles, necklets, and little charm-like ornaments.

The women wear their native clothes—voluminous, vividly-coloured skirts to their ankles, embroidered blouse, and a Sari draped around their shoulders and sleek black hair. Even small babies are clothed in outrageously bright colours. Some of the Indian men wore shirts, and instead of trousers, had material—resembling a tea-towel—swathed around their groins. Others were dressed in European style, the only difference being that their shirts were hanging outside their trousers. At first I thought this was an oversight.

Without any warning there was a torrential downpour of rain, which explained the umbrella-carrying habit of the Suva populace. Before shelter could be reached we were drenched to the skin. The rain ceased just as suddenly as it had started. Within a few minutes the roads were steaming under the hot rays of the sun, reminding one of the thermal regions of New Zealand.

Being thoroughly tired, spent the remainder of the afternoon resting. Awakened as the sun—a gigantic red ball—slipped over the horizon into the sea, its crimson hues tinting the clouds, and reflecting in the sea, sky and mountains—a sunset that will not quickly be forgotten.



A Charming Vista of Makogai, Fiji.

A RADIO RESCUE

FLYING DOCTOR'S AID.

The ramifications of wireless brought very necessary help this week to Andrew Dunn, a miner, aged 70, at The Granites, in the far North-west of Australia.

The story, as seen from a wireless man's point of view, commenced one evening when VK3TU, an amateur radio enthusiast of Ivanhoe, Melbourne, was searching the ether. He picked up a distress call transmitted in Morse from VK8GF, the wireless station at Chapman's Mine, The Granites. The message stated, "Flying doctor urgently wanted at The Granites. Miner has broken leg, has fallen down mine; without doctor man will most likely die. Anybody who hears this kindly ask Wavehill Radio Station to call me hourly from 8 a.m. to-morrow. Aerodrome here is O.K."

VK3TU immediately informed the Melbourne police, who communicated with the Melbourne office of Amalgamated Wireless. A.W.A. promptly established contact by radio with the company's station at Darwin; at the same time, the Melbourne police informed the Sydney police, who invoked the assistance of the Head Office of A.W.A. This led to the Darwin Radio Station being informed for the second time of the original call for help.

Darwin Radio placed the matter in the hand of the Government Medical Officer at Darwin, but as there was no flying doctor at Darwin, the news was communicated on to Wyndham Radio Station. As a result, Dr. Coto, piloted by Mr. Robinson, left Wyndham at noon for The Granites in a Fox Moth ambulance plane. Throughout the 600 miles journey, the plane, which is fitted with wireless, was in constant touch with the Darwin Radio Station. At one stage Dr. Coto reported that it might be necessary to land at Tanami for the night. He continued the flight, however, and landed at The Granites at 6.20 p.m. At midday next day the doctor and pilot left with their patient, arriving four hours later at Wyndham, where the old miner is now comfortable in hospital.

Gradually the purple starlit curtain of night descended, bringing to a conclusion my first day in the tropics.



(Top left):
Samuela Tabua
announcing.



Section of the transmitter room,
with Mr. A. A. McCollum.



Miss Fay Fryer.



Mr. P. Makin at the controls, and
Miss F. Fryer announcing.

AT THE STUDIO OF THE FIJI BROADCASTING COMPANY'S STATION, ZJV.

ZJV SUVA

FIRST PACIFIC STATION

THE first broadcasting station in the Pacific Islands, situated at Suva, Fiji, was opened on the 14th of March last, by Mr. C. J. Barton, the Colonial Secretary.

The new station was designed and constructed by A.W.A. for the Fiji Broadcasting Company. It operates on a frequency of 920 kilocycles (327 metres) and is constructed on the latest principles of radio science. The station uses the call sign ZJV and employs a power of 500 watts unmodulated in the aerial. Favourable comment has been made among Australian listeners at the clarity of reception of this latest arrival in the world of broadcasting.

There was a large attendance at the opening ceremony, including the heads of all Government departments in Fiji and representatives of leading business firms. Addresses were delivered by Sir Henry Scott, K.C., a member of the Legislative Council, and an appropriate introduction to the station by the Marchese Marconi was broadcast from a recording.

Mr. E. T. Fisk spoke from Sydney, via VK3ME, Melbourne, re-radiated by the Suva Station. He complimented the people of Fiji on the progressive spirit which had actuated their enterprise. It was a matter of pride that the station was built entirely by British capital and great credit was due to the Governor, Sir Murchison Fletcher, on the success of his endeavours to bring about the establishment of the station. A.W.A. was pleased to be able to give Fiji listeners broadcasting in the form of sound. At a later stage he hoped to be able to give them television also. The latter, however, could not be looked for in the immediate future. Only recently he had toured the world and conferred with the leading authorities in regard to television. They confirmed his opinion that television was still a long way off. For another 25 years sound broadcasting would continue to increase in popularity.

Mr. L. M. Browne changing the wave-length of Station VPD.

The Superintendent's quarters at Suva Radio.

Main short-wave transmitter of VPD.



A.W.A. SHORT-WAVE STATION VPD, AT SUVA, FIJI.

MELBOURNE MURMURINGS

Mr. M. Treacy, of C.R.O., has just returned from Sydney looking fit and well. He spent his recreation leave amid the snow at Mt. Kosciusko, and he is very enthusiastic about that popular holiday resort.

Mr. A. L. Eichstadt, of the Beam Operating Staff, is with us again after a six months' sojourn on Flinders Island. Mr. Eichstadt, who was on duty at the time, was the last person to see the ill-fated airliner "Loina" before she disappeared so mysteriously.

It was with regret that the Melbourne Staff gathered together last month to say au revoir to Mr. Geo. Scott, of VIM, who is now on his way to Thursday Island. "George" was not only a very popular member of the staff, but was recognised as a very capable one. On behalf of the staff, the Superintendent, Mr. J. J. W. Lamb, presented him with an inscribed case of cutlery, for, in addition to our very best wishes, Mr. Scott was accompanied to Thursday Island by a very charming bride.

That long-hitting golfer, Harry Neill, of the Beam Accounts, is making quite a name for himself at the "Medway" course, where he "romped" home in a weekly competition recently. He will be very hard to beat in the "Mancer Cup," and there is every indication that he will start favourite.

Clarrie Featherstone, of the Beam Staff, who is a leading light in the Surrey Hills Dramatic Society, is to be congratulated on his performance as "The Stranger" in "The Passing of the Third Floor Back," which ran for three consecutive nights at a suburban theatre. This work was warmly praised by several newspaper critics.

Mr. Frank Stuart, who has been attached to the Beam Operating Staff for nearly nine years, is now a member of the Beam Accounts Section.

We regret to report that Mr. Hedley Tyler, of the Despatch, was again knocked from his cycle a few weeks ago. Although suffering only minor injuries, Mr. Tyler had his clothes completely ruined, and he is still "negotiating" with the motorist concerned.



Transmitter building at Suva Radio.



A section of the five acres of newly-planted lawn at Suva Radio, showing an Indian boy with a motor lawn mower. Superintendent's house in the background.



STAFF AT SUVA RADIO.

Back Row (left to right): Messrs. W. J. Ragg, L. M. Browne, H. Roffey, F. C. Exon and W. Kearsley.

Seated: Harnam Singh and B. Huin.

VK3ME

Our Melbourne short-wave station has been well to the fore during the past few months!

On March 7 a special programme dedicated to the Chicago Short Wave Radio Club was broadcast. During the transmission a Beam message was received from the Club, stating that the programme was being excellently received.

A French programme for the French colony at Noumea, New Caledonia was broadcast on March 21, and brought forth several congratulatory letters.

The mail is constantly increasing. Among it one may find all kinds of odd things—flower seeds, sprig of holly berries, hand painted Chinese picture on silk, a dollar bill to have a smoke with, any number of photographs, picture post cards, stamps of all countries, home-made gramophone recordings, requests for information respecting lost or strayed relatives, besides the usual requests for our Verification Card.

The periodical talks on Australia always bring forth a large number of enquiries for more information.

VK3ME broadcast two special test programmes on the 14th and 15th April. In each instance a continuous broadcast of ten hours—and this is probably a record for a short-wave transmitter on the broadcast band—ten hours of continuous entertainment!

On the morning of April 25, Anzac Day, VK3ME broadcast the Dawn Ceremony of Remembrance at the Cenotaph at Martin Place, Sydney.

The following is an extract from a letter of a fair American listener of VK3ME:—

“One thing that impressed me most of all was the announcer’s friendly attitude, with an underlying note of humour. It is always a pleasure to hear what is being said without the effort of listening, and this was certainly the case this morning. In addition to having a nice radio voice, the natural ease and grace of VK3ME’s announcer is a gift that few can claim. The polished accent, fine diction and enunciation and correct pronunciation, complete the qualities that I and everyone else expects of, and admires in, a radio announcer.”

MR. HUNTLEY TO ZJV SUVA

Mr. H. R. Huntley, who for some years has been engaged in the broadcasting activities of A.W.A., has been transferred to Suva in connection with the new broadcasting station ZJV, and will assist Mr. Exon.



MR. H. R. HUNTLEY.

Mr. H. R. Huntley has had a most varied experience since joining A.W.A. in 1933. He was first employed at the Radio Electric Works as a Cadet Engineer. At the end of that year he was transferred to Broadcasting Station 2AY, thence to 3BO, Bendigo, where he took part in many unique broadcasts, such as a broadcast from Perry Bros.’ Circus, and a point to point description of the visit of the Duke of Gloucester.

One of his most humorous recollections is of a broadcast of the Bendigo Regatta, which was described by Roger Fair from the topmost branch of a willow tree, the equipment being installed at the foot of the tree. To establish contact with Mr. Fair, Mr. Huntley had to climb the willow tree, inform him that he would be on the air in the time it took him to reach the ground. Unfortunately a misunderstanding took place, and the Bendigo listeners were regaled with a three way conversation between Mr. Shepherd at the sta-

tion, a mechanic at the Post Office, and Mr. Huntley at the foot of the said tree, while Mr. Fair was blissfully “talking to the birds” at the top of the tree, and running the risk of emulating their flying activities. Eventually everything was straightened out, and the listeners had a most vivid picture of the carnival.

After six months at Bendigo Mr. Huntley was transferred to 2GF, Grafton, to relieve Mr. Coldwell-Smith. After a month’s stay in Grafton, he took up duty as assistant to Mr. Cox at Townsville, where he has since remained, except for a recent six weeks’ visit to Sydney, where he was employed on the testing and final touches to the Cairns and Suva transmitters.

During the last two years, Mr. Huntley has averaged over twenty hours a week on the air, and is known to the kiddies of Albury, Bendigo, Grafton, and Townsville as “Uncle Ted”. Favourite sport, tennis. He is the holder of a broadcast operator’s Certificate of Proficiency, and is still studying the Marconi School’s Radio Engineering Course. He is also a capable violinist, having studied for six years. While at 4TO, Mr. Huntley installed the new frequency controlling apparatus and a new studio amplifier.

Before leaving for Suva, Mr. Huntley became engaged to Miss Alison Ellis, of Chatswood.

PERTH NOTES

On a recent Sunday afternoon the patients and nurses from the Lemnos Hospital and Edward Millen Home, comprising ex-soldiers suffering from war disabilities, were motored by friends to the Applecross Wireless Station where, by courtesy of Amalgamated Wireless, the party was given an interesting demonstration of the work of the station. The visit was arranged by the Ladies’ Auxiliary and the party was accompanied by the State President (Mrs. McKinlay), who was received by the Officer in Charge (Mr. W. G. Chapman). On arrival the party, totalling over 50, was divided into two sections each being fully shown the various activities of the Radio Centre.

SHIPS' WIRELESS RECEIVERS

40 YEARS OF DEVELOPMENT

COHERER TO MULTI-VALVE

THE fact that the Company is fitting a new type of multi valve radio receiver on practically every ship in the Australian mercantile marine recalls to mind the development that has taken place in wireless receivers used for marine purposes since the first experiments of Marconi at the end of the 19th century.

In the beginning, such wireless communications as were carried on between shipping or between ship and shore employed a receiver with what was known as the coherer detector. This instrument consisted of a loose metallic powder or granules packed into a small space between two pieces of metal, the whole being enclosed in a glass or ebonite tube. Nevertheless, the coherer was effective over short distances and as far back as 1897-98 it was used by Marconi to establish communication over relatively short distances. Also he employed the coherer in one of the earliest uses to which wireless was placed in England, namely, the establishing of communication between the East Goodwin lightship and the shore. One of the few radio men in Australia who have had practical experience of the old coherer is Mr. E. T. Fisk, chairman of Amalgamated Wireless.

About 1905 came the magnetic detector and multiple tuner. The tuner consisted of three circuits with a switch on the top whereby the receiver could be placed in what was known as the Std-bi (standby). In that position the tuning was very broad, allowing the instrument to respond to a fairly wide range of wavelengths. By throwing the switch into the tune position, tuning was considerably sharper. The magnetic detector used in connection with the multiple tuner consisted of a clock-work motor revolving two ebonite pulley wheels on which was an endless iron band, passing continuously through the field of two permanent magnets. Owing to the effects of magnetic hysteresis, the incoming signal made an alteration in the magnetisation of the iron band and this caused the current to flow through the headphones connected with the detector. The

magnetic detector remained on many ships until 1914 and rendered excellent service in its time. Under good conditions it would afford reception over ranges of up to 2,000 miles or more at night, although 600 to 1,000 miles was more usual. The magnetic detector was efficient but not foolproof. The operator had to make certain that his pulleys were revolving. If he failed to wind up the clock work about every hour no signal would be heard, and as the pulleys were black, it was not always easy to see whether they were revolving unless something white was pasted over the pulleys. It was usual to stick a piece of stamp paper on the pulley; sporting operators would use pictures of race-horses which pursued each other perpetually as the pulley revolved. One operator achieved fame by covering his pulleys with the picture of a girl running for dear life with an angry alligator in pursuit. Happily the alligator never caught up. Occasionally an operator would sit for half an hour with no signal coming through; then he would wake from his ruminations and realize that the pulleys were not revolving.

The magnetic detector was superseded by the crystal detector which was later used in the early days of broadcast reception. In using a crystal detector it was necessary, of course, to find a sensitive spot. This was done by means of a testing buzzer, but some of the crystal holders used by the operators were rather crude, although they gave good results. The crystal was screwed into a clip and the contact point consisted of a safety razor blade attached to a wire and connected to the other terminal of the crystal holder. The operator would move the blade over the crystal until the most sensitive point was found.

The magnetic detector and crystal were used concurrently until superseded by the three-electrode valve. The first valve receiver made by Amalgamated Wireless for Australian ships was known as the "103," consisting of one stage of radio, a detector and a stage of audio. It was designed and built by A.W.A. in Australia

which was an item of importance in the year 1918. Three Q valves were used. At the same time, A.W.A. was using on some of the small cargo ships the 101 balanced crystal receiver. About 1921 the P1 type of receiver, using Expanse B valves, practically superseded the earlier type. Changes were made in the P1 receiver from time to time, and they gave excellent service.

The early valves used in the P1 receiver were "soft". In other words, a certain quantity of gas remained in the valve in contradistinction to the modern valve in which a very high vacuum is obtained. A soft valve might be working very nicely until the door of the wireless cabin was opened. A cold draught of air blowing on the receiver would alter the characteristics of the valve and perhaps make it impossible, temporarily, to carry on reception.

Modern research with the new screened grid valves followed and later developments in valve design permitted rapid advances in receivers. The modern marine receiving set comprises highly selective and sensitive equipment and is undoubtedly the finest type of receiving apparatus on any ships in the world. Not only is the super-heterodyne principle used both on short and medium waves but for the wavebands extending up to 20,000 metres extremely efficient tuned radio frequency receiver has been developed. By the simple means of a switch the requisite tuning arrangement to cover any particular band of frequency is selected at will. This feature represents one of the most efficient means of covering the frequency spectrum and is quite different to most of the older types of receivers where losses were incurred through coils being in circuit, although not actually required for the frequency in use.

One precaution is still taken. If an unexpected calamity occurred—suppose every valve in the set was suddenly burnt out and every spare was broken—the A.W.A. man would still carry on with the aid of a stand-by crystal receiver.

A.W.A. COASTAL AND ISLAND RADIO SERVICES

The following article is the substance of a lecture delivered by Mr. W. G. Clarke, Traffic Manager and Superintendent of Coastal Radio Services, at a gathering of A.W.A. engineers.

Some years ago A.W.A. commenced the work of completely re-equipping, re-organising and modernising Australia's chain of thirty-one Coastal and Pacific Islands Radio Telegraph Stations.

This work has been efficiently carried out, and the services now operating are known and appreciated by the people of the Pacific Islands, their correspondents in Australia and overseas, and by those fortunate enough to travel.

In my opinion, a great number of people are quite unaware of the world-wide communication facilities available to them by the judicious expenditure of a few shillings. In the course of my work I am continually brought in contact with people who, through ignorance of present day communication services, have spent pounds in following wrong methods, and obtaining little, if any, practical results. Whenever an opportunity is afforded our representatives of getting in touch with such people they endeavour to set them on the right path. We encourage people to come to us with their communication troubles, and we see that they get the best advice and service possible, resulting in their becoming our firm friends and regular users of our services.

Arising out of the development and modernisation of the Coastal Radio and Islands Services there is a vast difference between the services now operated and those operated prior to 1922.

In those popularly called "good old days," the work of the majority of the Australian stations was almost solely restricted to the exchange of messages with ships at sea by means of spark transmitters and simple valve or, in some cases, crystal receivers. Messages were few and far between—some stations averaged but a couple of messages a week. But few short-wave transmitters and receivers were installed. Each station stood more or less on its own, isolated from its neighbouring stations, except during the hours of darkness. The staffs at the majority of the stations served in a state of splendid isolation and were mostly left to their own devices. The only real "blisters" they had to answer were those in respect of wrong computation of their Sunday, holiday or overtime claims.

The cruising craze, short-wave world-wide ship services, and the interception and relay of overseas broadcasts had not arrived. Wireless equipped cargo boats, trawlers and coastal vessels were indeed rare.

Nowadays, interlocking short-wave services are operated everywhere. Urgent instructions are radioed to all stations direct from Sydney. Special services relating to communications on land, sea or in the air are often arranged over the whole continent at a moment's notice. Staffs at stations, however apparently isolated, never know from day to day what demand Head Office will make upon them. They are thus kept on the alert all the time, and any tendency to slackness eliminated. Further, no matter what particular services are required, there are usually several stations available to observe the results obtained by the station or stations to which a particular job has been assigned. The knowledge of this is an important factor, introducing keenness and the will to do the best possible job under all conditions.

Broadly speaking, our Coastal and Island stations may be divided into two main classes—those primarily concerned with the safety of life at sea and the exchange of ship to shore and shore to ship traffic; and those mainly concerned with the maintenance of point to point and inter-island services at which the maintenance of watchkeeping for ships at sea is limited to certain definite periods each day.

Most of our Australian coast stations maintain continuous watch for ships during their hours of service, and at our Simplex stations, we are continually endeavouring to avoid the introduction of additional services which might possibly tend to weaken or interfere with their efficiency in this respect.

The inauguration of direct services from Sydney to Papua, New Guinea, New Caledonia, and other Pacific Islands has done much to free the stations situated on the dangerous Queensland coast from point to point working, and has left them available to maintain a much more efficient safety watch than was possible under previous conditions.

Our personnel is at present responsible for the maintenance and conduct of:

The international ship/shore service from all stations.

The world wide H.F. ship/shore service from Sydney.

The trawler telephone service.

The small ships' telephone service.

The Sydney/New Guinea, Papua, New Caledonia, Fiji, Nauru and Lord Howe Island point to point services.

The Melbourne and Hobart/King and Flinders Islands point to point services.

The Tasmania/Victoria/New South Wales air line services.

The Australia/London, Australia/New Zealand, Australia/Java telephone services.

The operation and maintenance of the transmitters for 3LO, 2FC, 2SM, 4TO, 4PM, 6PR, VK2ME and VK3ME, VK6ME, ZJV Suva, VPD short-wave broadcast stations.

The Brisbane/Darwin/Singapore air mail service.

The inter-capital city emergency feeder services.

The Head Office staff comprises the superintendent and his assistant, a maintenance engineer, an accountant dealing with expenditure and another with traffic and revenue, in addition to abstract clerks, machine operators, checking clerks and typists. This staff deals directly with thirty-one stations, including the Central Radio Offices at Sydney and Melbourne, Sydney Radio Transmitting Centre, Pennington Hills, and Receiving Centre, La Perouse, Melbourne Radio Centre at Braybrook and the Beam Receiving Centre at Rockbank.

Of the station staff of one hundred and fifty men, eighty-four are radio telegraphists, and twenty-four technicians.

The Head Office staff is responsible for the expenditure of many thousands of pounds annually, and, although the greater part of this is made up of salaries and allowances paid to the personnel, a very substantial amount covers repairs and maintenance to the station equipment, buildings and roads, fuel and lubricating

A.W.A. COASTAL & ISLAND RADIO SERVICES

oils, electricity, fares and travelling expenses of transferred officers and their families; rates and taxes, freight and many other expenses incidental to so widespread a service.

Accounting for expenditure is effected by a system similar to that of commercial houses, but message revenue accounting is far more difficult. This is in a specialised form, the procedure for which is laid down in the Regulations of International Tele-Communication Conventions.

Traffic accounts for communications to and from ships at sea or for Island stations controlled by foreign administrations, must be prepared and settled between us and the Administrations concerned on the gold franc basis. It is immaterial whether the original charge for a message was collected in Australian and English currency, Japanese yen, French paper francs, American or Canadian dollars, German marks, or Peruvian libra—separate accounts showing the gold franc due to and by A.W.A. are prepared for practically all foreign Administrations, and when the balance is due to A.W.A., the debtor Administration is requested to forward a remittance. If the balance is due by A.W.A., we, of course, have to do the remitting. The creditor Administration has the right to nominate the currency in which it desires to receive settlement. This has the effect of enabling us to demand settlement from foreign Administrations owing us money, in any foreign Administration's currency the depreciation of which will give us the most exchange gain.

The accounts are invariably accepted and paid as rendered, and adjustment of errors, after investigation, is made in subsequent accounts. From the international List of Ship and Coast Stations, our Traffic Accountant obtains the designation and address of the Department provided by all countries to carry out these international settlements, and he prepares his accounts accordingly.

Mr. Clarke pointed out that, not counting a number of teleradio transmitting and receiving sets in New Guinea and Fiji, over one hundred wireless stations were actually concerned in A.W.A.'s coastal and Island services and he enumerated the list of stations belonging to other Administrations. In this connection, he stated that all those Administrations were clients of A.W.A. passing all their Australian, New Zealand and Pacific Island wireless traffic through our centres at Rabaul, Suva and

Sydney. In most cases, however, A.W.A. handled all their traffic, irrespective of its origin or destination.

A detailed description was given of each station, its equipment and services, which were made clear by the use of a specially prepared map. The lecture concluded with detailed statistics of the traffic handled by all services.

CAPTAIN'S ILLNESS

AID BY RADIO.

The timely assistance of radio appears to have saved the life of the Captain of the motor ship "British Science," while on the run across the Indian Ocean a few days ago from Abadan (Persia), to Fremantle. When the "British Science" was 1,400 miles from Perth, the Captain became very ill, apparently with appendicitis. The Chief Officer sent a radiogram to the Government Medical Service at Perth, and for three days messages were exchanged between the ship and Perth Radio Station, the officer-in-charge of which remained in constant touch with the medical authorities at Perth. At one stage, the symptoms appeared to indicate peritonitis, but the treatment prescribed by Dr. Murray, via the A.W.A. Radio Medical Service, was so successful that, at length the danger had passed, though the patient still needed careful handling.

So serious did the case appear after the first day, that on the advice of the Medical Service, the course of the "British Science" was altered in the direction of Batavia, which port she could have reached two days earlier than Perth, but in view of the improvement in the Captain's condition, the ship was later headed for her original port of destination.

GOLF LINKS AT VPD, SUVA.

Links are being laid down at Suva Radio. Though at present there are only six holes, the links are extremely popular with the staff. When more of the scrub country has been cleared and the motor lawn mower put into operation, three further holes will be laid down. When the nine hole course is completed, Suva Radio will make a nice holiday resort for some of A.W.A.'s crack golfers.

SALES DEPARTMENT

THIS year's models of the Fisk Radiola maintain the high prestige enjoyed by the Company's products. They have been accepted throughout Australia as the finest wireless receiver yet produced by A.W.A. For many weeks after their first showing the Department was unable to keep up with orders, with the result that it became necessary to increase the number of Works' employees. For some weeks now the Works have been producing 1,200 Radiolas per week.

The Sales Department introduced the new receivers to the trade at distributors' conferences held in every State of the Commonwealth, with the exception of Tasmania. The New South Wales and Victorian Conferences were held at Sydney and Melbourne on the 10th and 17th March respectively, and the programme covered two days. Messrs. J. B. Chandler and Co. arranged the Brisbane Conference on the 12th March, while the South Australian Conference was conducted by Messrs. Newton, McLaren, Ltd., Adelaide, on the 24th March. In Western Australia, Nicholsons, Ltd. and Wyper, Howard, Ltd. co-operated in the first W.A. Conference at Perth on the 22nd April.

The Sales Department gave a great deal of attention to the planning of the merchandising and advertising of this year's Radiolas and the successful result of its work is clearly demonstrated in vastly increased sales.

An outstanding feature of this season's Radiolas is straight line tuning, a new and particularly efficient method. The dial is a departure from the conventional circular type, being rectangular, and the pointer moves along in a horizontal plane. Over ninety Australian stations are clearly indicated, and are grouped in States. The dial is edge-lit, thus eliminating all glare. On the World Range models, another interesting feature is the automatic vernier control, which permits either tuning rapidly from one station to another or tuning slowly for any particular station without adjustment.

There is a range of sixteen models. Prices are from 15 to 85 guineas.



Interior D.F. Station at
Essendon, Vic.

DIRECTION FINDING

(By A. S. Hart)

THE Essendon Direction Finding Station works in conjunction with a similar station at Western Junction, Tasmania, and both stations are used exclusively for communicating with aircraft.

When opening the service, the pilots on the run had no previous experience of bearings and fixes. This resulted in a system with something of a personal flavour, developed on logical lines, which will probably, in later years, not appear altogether orthodox.

Weather reports were at first a difficulty. Not having the services of a trained observer, it became necessary to make a study of weather conditions from an airman's and not a landman's point of view. In this regard it must be remembered that an aeroplane literally flies on the weather. Route forecasts and such like are of little use to the airman. The direction of the wind, and the state of the weather around the aerodrome indicate whether he should go over or under the clouds.

Direction finding can be divided into two distinct classes; "bearings" and "fixes". The former is that most frequently used. Fixes, naturally, are only required during thick weather, but bearings are acceptable at all times as a check on drift, especially on the Bass Strait run. This point may not be quite clear. One may ask, "If a pilot can see a distant object what is to prevent him flying straight to it?" This question can be easily answered. You have but to endeavour to walk directly towards a given object half a mile away and have an observer watch the irregular course you take.

Fixes, of course, are of extreme import-

ance. In this respect we assume that we are working with a fair degree of accuracy. Test fixes taken on clear days when the pilots are able to tell exactly where they are, are our only guidance; in thick weather then the pilot must depend on the fix given. However, in view of the bad angle of proximity in which the two stations are placed, and the fact that practice in other parts of the world show that an exact fix can only be given by three or more stations, it is then quite possible that on occasions our fixes are a little out.

This angle of proximity is a very important one in the location of ground stations. Naturally, with aircraft following a variety of courses (on the Bass Strait run they follow an irregular parallelogram, with a fifth route as a diagonal across the longer dimension) it would, unless D.F. stations were established at King and Flinders Islands, be impossible to have stations located to give accurate fixes on all occasions. As it is, however, it has been found that when the angle is either too wide or too close, it is impossible to give a very accurate fix; and naturally, when an aeroplane is flying directly between the two stations, Essendon and Western Junction, a fix is impossible.

There is one important feature we have discovered here which should be of assistance to future operators of D.F. stations. Actually it refers to wave propagation. What is referred to by "Keen" as aeroplane effect requires close observation. Certain errors have always to be taken into account when working D.F., such as whether the route is over the sea, or the land, or partly over both.

However, aeroplane effect has to be taken into account where possible, as an aeroplane bearing when flying away from you will differ anything up to 3 deg. from the bearing when flying towards you. Actually, to make the allowance is not easy, as in navigating through clouds in the vicinity of aerodromes many turns are taken by the aeroplane sometimes even a complete circle is made when the direction of flight is unknown to the D.F. station.

Station error is another feature. Nominally, once the error has been ascertained, then, providing nothing has been altered, the error should be constant. With this station there was, fortunately, on its erection, no error; but, strange to say, a $2\frac{1}{2}$ degree error crept in, and as nothing was altered, then "thought" was the only means of arriving at a solution. In June I expect the error to right itself, as from the formation of an apparent curve in the bearings and a slight variety in the error, it can only be caused by convergency, through the drying out of the earth during summer, wave propagation being slower over dry ground than wet.

I may add, for the information of the old school of wireless operators who still retain their old altruistic ideas of wireless being invented for the safety of life at sea, that in airwork wireless has most surely come into its own.

Never has it been more gladly and enthusiastically accepted than by airmen, and in no sphere of its application yet can it do greater work, not only in general organisation; but as an aid to safe navigation, the saving of life.

A.W.A. BALL

THERE was an attendance of over 1400 at the A.W.A. Ball, which was held at the Trocadero on 11th June. The table decorations were particularly attractive, displaying the Company's monogram, "A.W.A." as the chief motif in the floral setting. The proceeds are to go to the Legacy Club.

Mr. Fisk, in appropriate words of welcome to the large gathering, read a message from Mr. L. A. Hooke, the General Manager of A.W.A., who was in Melbourne, and from Mr. A. P. Hosking, on vacation in South Africa, wishing everybody a successful evening.

In the official party were the Chairman of A.W.A., Mr. E. T. Fisk, and Mrs. Fisk, the latter gowned in royal blue satin with gold draperies; Mrs. L. A. Hooke, wife of the General Manager (A.W.A.), wearing midnight blue mariette relieved with light blue trimmings; Mr. and Mrs. J. F. Wilson, the latter frocked in a Patou pink lace gown; Mr. and Mrs. J. L. Mulholland, the latter wearing pale pink matalasse; Mr. and Mr. R. V. Dearman, the latter wore ice blue lamé worn with a long brown velvet cloak; Mr. A. S. McDonald; Mr. and Mrs. F. B. Clapp, Mr. and Mrs. C. J. A. Moses, The Hon. T. G. and Mrs. Murray, Rev. Geo. and Mrs. Cowie, Mr. and Mrs. J. R. Greenwood, Mr. and Mrs. C. Plowman, Mr. and Mrs. S. B. Cox, Mr. J. A. Overdiep, Mr. and Mrs. P. J. Manlev, Mr. and Mrs. Church, Capt. and Mrs. Burgess, Mr. and Mrs. H. G. Horner, Mr. and Mrs. C. F. Marden, Mr. and Mrs. V. E. Butler, Mr. and Mrs. W. H. Myers, Miss Humphries and Mr. Ronald.

Large parties were arranged by Mr. and Mrs. W. J. J. Wing, the latter wearing dark mauve velvet; Mr. and Mrs. F. W. Larkins, the latter frocked in a flat pink cloque gown; Mr. and Mrs. E. A. Horner, the latter wearing rose matalasse; Dr. and Mrs. W. G. Baker, Dr. and Mrs. A. L. Green, Dr. and Mrs. O. Pulley, Dr. and Mrs. G. Builder, Mr. and Mrs. R. Burchell, the latter in emerald green trimmed with diamante; Mr. and Mrs. J. H. Chesterfield, the latter frocked in pink brocaded satin; Mr. and Mrs. R. G. Wright, the latter wearing blue figured chiffon; and Mr. and Mrs. S. N. New-

man, the latter wearing deep mushroom pink morocain.

Parties were also entertained by Miss E. Sharman and Misses I. Clarke, E. Holbrook, B. Russell, M. Casey, G. Muir, P. Dunbar, W. Tarilton, M. Martin, L. Johnson, T. Dengate and Mrs. M. O'Brien.

Mr. and Mrs. E. A. Burbury, Mr. and Mrs. F. Noar, Mr. and Mrs. J. C. Drafkin, Mr. and Mrs. L. Byrne, Mr. and Mrs. C. Hillyar, and Messrs. K. Harris, H. Jones and W. Pulford were present.

Other members of A.W.A. staff present were: Misses M. Williams, D. Watkins, D. Taylor, M. Connolly, M. Malone, N. Morrison, B. Foll, E. and L. Cornwell, M. Allen, A. Nicoll, C. Jewiss, M. Stubbs, P. Ives and E. Bent. Mr. and Mrs. Jack Tarpey (nee Miss Ola Dempsey) also attended.

Among the large parties from the A.W.A. Radio-Electric Works entertaining were Mr. and Mrs. C. J. Williams, Mr. and Mrs. W. R. Thomas, Mr. and Mrs. E. Mathieson, Misses M. Cook, N. McKay, Nicoll, Parsons, and Alston; and Messrs. W. Fleming, E. G. Bailey and J. Davis.

Others who arranged parties comprised: Senator and Mrs. Foll, Mr. and Mrs. W. G. Clarke, Mr. and Mrs. B. Wilkinson, Mr. and Mrs. G. L. Betteridge, Mr. and Mrs. E. Windows, Mr. and Mrs. C. C. Faulkner, Mr. and Mrs. J. Crocker, and Mr. and Mrs. L. T. Thorndyke, Mr. and Mrs. H. Sharpe, Mr. and Mrs. T. Bannister, Messrs. J. Calder, J. Moore, R. Jenkyns, W. McGuinness, R. Kidd, I. Jones, P. Henley, Lucas, C. Scott, T. Burns, B. W. Sinclair, T. Redfern, W. R. Clarke, C. Williams and R. Toope.

Also present were Messrs. J. Lowe, Simpson, D. Jeffrey, E. Philpott, H. Burge and A. W. Turner.

The following were guests of 2CH:—Miss Nellie Sheridan and her teacher, Mr. Roland Foster; Miss Mills and Mr. Pentecost, Mr. and Mrs. N. E. Woods, Mr. and Mrs. G. Dowland.

2CH was represented by Mr. H. Stewart, whose party included Mr. A. S. Cochrane, Mr. and Mrs. R. E. Lane, Mr.

and Mr. R. Blandford, Mr. and Mrs. S. O. Clark, Mr. and Mrs. R. Mackie, Mr. and Mrs. C. Stanley, Miss M. Chilton and Messrs. W. Penny and I. Mackinnon.

A party from the Legacy Club included, among others, Mr. and Mrs. O. F. Mingay, Col. Munro and Mr. H. Sinclair.

Miss Nellie Sheridan, wearing white with a black velvet coat, entertained the audience with her wonderful voice, rendering several numbers.

The Beam dance prize was won by Mr. and Mrs. J. F. Wilson, but was generously donated back to the committee. On the second occasion the lucky couple were Mrs. R. Burchell and partner. Mrs. Hooke presented the prizes on behalf of the committee, and the winners returned to their table to the accompaniment of "For They Are Jolly Good Fellows."

Congratulations are extended to the committee, whose excellent organisation made the evening most enjoyable. The committee comprised Mrs. Fisk, president; Mrs. Hooke, vice-president; Miss E. Sharman, hon. secretary; Mr. J. Calder, hon. treasurer; Mr. R. Jenkyns, publicity officer; Misses I. Clarke, D. Taylor, B. Russell, M. Casey, and Messrs. R. Kidd, W. Fleming, W. McGuinness and J. Moore.

The Ball was undoubtedly the best yet held, everybody enjoyed themselves thoroughly, and the Legacy Club will benefit to the extent of over £100.

CHEQUE PRESENTED TO LEGACY CLUB

PROCEEDS FROM A.W.A. BALL.

On June 25, Messrs. R. V. Dearman, J. Calder, J. Moore, W. McGuinness, E. T. Vears, R. Kidd, W. Fleming and R. Jenkyns, representatives of the A.W.A. Annual Staff Ball Committee, were guests of the Legacy Club at their weekly luncheon. Mr. Dearman, supported by Mr. Calder (Treasurer) presented a cheque to the value of £101/4/3 to the Legacy Club, and Mr. Catts (Secretary of the Club) expressed gratitude on behalf of his fellow members, and congratulated the Committee on their successful organisation of the Ball.



Mr. T. Bannister and Mrs. L. Thorndike.



Left to right: Mr. R. Montague, Miss L. Footed, Mr. McCarthy, Miss J. Dowling, Miss M. McLean, Mr. W. Atkinson, Mr. V. Hamilton, Miss F. Elliott, Mr. N. Gage, and Mrs. Gage.



Mrs. T. Bannister and Mr. W. G. Clarke.

Snapped ● AT THE HEAD OFFICE BALL



Mr. and Mrs. A. W. Turner.



Left to right: Miss B. Goddard, Miss Wilkinson, Messrs. R. McCarthy and R. Cameron.



Mr. and Mrs. B. O'Toole.

NEW RADIO CENTRE AT RABAU

MR. J. K. TWYXCROSS, Radio Inspector at Rabaul Radio Station, accompanied by Mrs. Twycross and their three children, recently arrived in Sydney from Rabaul. Mr. Twycross is on nine months' leave, and, after spending some time in Sydney, will visit Western Australia, returning later to Sydney en route to New Guinea.

During the past year many wireless improvements of a far-reaching nature have been effected at Rabaul. The Company's equipment has been modernised and new apparatus of the latest type installed, giving more efficient service to the public. The A.W.A. Station has been moved from Bitapaka to Rabaul, some 30 miles distant.

Among the many advantages arising from this transfer are the cutting out of the land line between Rabaul and Bitapaka, the creation of a duplex station giving a greater degree of centralisation, and the more economical operation of Rabaul Radio Centre. New and modernly equipped cottages have been built at the station sites for the staff, who will now enjoy the greater conveniences afforded by being nearer the shopping centre.

The staff quarters have been designed and built according to the latest plans of tropical architecture. They comprise eight bungalows, each containing living room, bedrooms, lounge, kitchen and sleep-out verandah. The construction is of fibro and steel. Gardens are being laid out, and their cultivation will beautify the settlement considerably.

In the construction of the verandahs for sleeping-out, special consideration has been given to the comfort of the occupants. Both lounges and sleep-outs are fibro louvered, thus allowing the maximum of air circulation with a decrease of heat conditions.

Each kitchen is large and airy, and running water is a feature.

A similar type of bungalow is occupied by the bachelors of the staff—four officers to one bungalow.

The transference of the staff and equipment to the new quarters at Rabaul was

effected during the Easter holidays, and was very smoothly and effectively carried out. The transfer gives much greater recreation facilities to the staff, allowing them to take an active interest in all of the sporting activities in Rabaul, and to visit the local picture theatre (filming three times weekly). Horse race meetings are held on public holidays and on special occasions.

The native staff comprises about twelve boys who are indentured from different parts of the Territory, under contract of from one to three years. Special accommodation quarters for the boys is provided by A.W.A. The only raiment worn by the boys is that known as lava lavas, on which the A.W.A. monogram is printed. Three of the natives are messenger boys, delivering their radiograms mounted on bicycles. The boys must be home by 9 o'clock each night, unless a special pass is obtained, when they are allowed until 11 o'clock. If found away from their quarters after 9 p.m. without a pass they are promptly arrested by a policeman.

The station equipment consists of five transmitters:

The main transmitter is used for the Sydney-Rabaul high speed telegraph and telephony circuit. This equipment is, in Mr. Twycross' opinion, as up-to-date as any in Australia. It was recently designed and built at the Works, and after testing was sent up to the Territory and installed there by Mr. J. Doggett, who was specially sent to Rabaul for the purpose, assisted by Mr. Sturgeon.

The 600 metre transmitter for communication with ships, and long-wave communication.

Two short-wave transmitters, one for working the out-stations at Kieta, Kavieng, Manus, Aitape, Madang, Salamoia, Wau, Bulolo, Lae, Truk in the Carolines, Ocean Island, Nauru and Tulagi; the other as a spare for the main transmitter to Sydney.

An emergency transmitter is installed at the receiving office for working ships and out-stations after the main transmitter has closed down—from about 7 p.m. onwards. This transmitter has also an engine-driven power unit for emergency in the event of town power failing.

Generating Plant: The current is supplied direct from the district electrical supply. A new feature of the power generating equipment at the station is the installation of a Ruston Hornsby engine to drive an A.C. generator to take the place of the main should the town supply fail.

The receiving station and wireless office is at the town of Rabaul, while the transmitting station is situated at Malaguna, about two miles distant. All the operators are located at the receiving centre, from which the transmitting centre is operated by remote control, the two stations being connected by underground cable.

The receiving station is equipped with modern superheterodyne receivers. One of these, the type C.110a short-wave superheterodyne comprises twenty valves and incorporates the latest developments in automatic noise suppression and automatic volume control. A high fidelity audio system is also incorporated.

The station is equipped with multiplex receiving equipment for the reception of tone transmission, and also a creed recorder, undulator and bridge unit and automatic transmitter for high speed reception and transmission.

There are five masts on the transmitting site—four of 90 feet and one of 120 feet. The four 90 feet masts support the short-wave aerial array which is used in the direct transmission of messages to Sydney. This array is also used for short-wave telephony. The 120 ft. mast supports one end of the long-wave aerial for ship working and other special services.

The receiving site has also five masts—four of 90 ft. and one of 120 ft. The former support the receiving array, which is similar to that of the transmitter. The 120 ft. mast supports one end of the long-wave aerial which is used for the reception of ship traffic and other services.

The site of the receiving station is on the foreshore of Blanche Bay—one of the finest sights in Rabaul. The beach is of volcanic origin and comprises black volcanic sand, and is not particularly attractive from a point of view of beauty. Splendid views are obtained from the station of Mt. Mother, the Beehive Rocks,

and the surrounding islands. The sunsets are particularly gorgeous.

There is a large amount of shipping in Blanche Bay, and at times as many as half-a-dozen schooners are there for picking up and discharging island products and copra. The latter is landed for storage, to be later shipped to Sydney, Hull, Rotterdam, and other European ports.

Staff.

Mr. J. K. Twycross (Mrs. Twycross and Gladys aged 13, Joan 11 and John 8 years).

Mr. J. T. Allan (Mrs. Allan and Joan aged 10 and Margery 6 years).

Mr. T. W. Thomson (Mrs. Thomson and Florist aged 6 and Jim 2 years).

Mr. E. F. Bishton (Mrs. Bishton and daughter Margaret aged 2 years).

Mr. W. R. Thomas (Mrs. Thomas).

Radio-telegraphists: Messrs. L. C. Coleman, J. Bassett, H. F. Doherty, D. W. McMillan, F. J. Tracy, C. H. Sturgeon and J. B. Alexander.

The entire staff plays an excellent game of tennis. Mr. J. T. Allan is a keen horseman and takes an active interest in the local turf club.

The Rabaul community look with pleasure to the arrival of the tourist season, and the invasion of Australians on ocean cruises. Every opportunity is taken to make the visitors' stay as enjoyable as possible; special functions, motor tours, horse racing events and dances being arranged for their benefit. Among some of the scenic attractions are the hot springs at the foot of the crater, about three miles from the town; the Botanical Gardens with their wealth of tropical growth, the well laid-out streets and the avenues of beautiful trees.

Mr. Twycross has a very high opinion of the Pedal Radio sets and the good work carried out with those owned by the Administration. They proved particularly useful in the recent search for the missing "Hermes," when two schooners were fitted with standard pedal sets. Communication was maintained twice daily with Rabaul, over distances up to 400 miles. This was the more noteworthy by reason of the fact that the schooners encountered rough weather, making the pedalling of these sets very difficult.

Pedal sets are installed at two stations on the Sepik River, one at Angoram, the other at Ambunti, which communicate with the Administration's pedal stations at Weewak and Aitape respectively. The sets are also employed to establish

communication between Ottabanda and Chimbu, in the uncontrolled area behind the goldfields of Wau, with the goldfields' station at Wau.

The A.W.A. station at Aitape, which was established twenty-one years ago, is being transferred to Weewak, eighty miles down the coast. This follows the transference of the Administration's depot from Aitape to Weewak. New quarters are being built at Weewak for the wireless officer—Mr. J. Boto.

The out-stations are manned by one officer, with the exception of Wau, where Messrs. Beckett and Sexton are engaged. Very heavy traffic is handled at Wau, mainly on account of the goldfields. General business also is brisk at Wau. There has been a small increase in the price of copra, and gold-mining is making active progress, many new mining companies have been formed. Much money is being invested in existing mines, and in the opening up of new mines, particularly in the country beyond Wau.

There has been great expansion in aerial transport. To-day the aerial services of New Guinea are considered to be the equal of any in the world. Big Junker planes carry over three tons dead weight. Practically the whole of the transport between Salamoia and Lae is by plane.



One of the five staff bungalows on the Receiving site at Rabaul.

MARRIAGES

RESEARCH LABORATORY

BUILDER—MITCHELL.

Dr. Geoffrey Builder, Officer in Charge of the Research Laboratories was married to Margaret Bettie Mitchell, of Perth, at Ballarat, Vic., on May 25, 1936.

Dr. Builder was presented by his colleagues with a set of cutlery. Mr. Hooke, general manager of A.W.A., made the presentation.

GREEN—PIKE.

Dr. A. L. Green, of the Research Laboratories, to Miss Nell Pike, daughter of Mr. Justice Pike and Mrs. G. H. Pike, of Killara, on December 21, 1935.

BROWN—DAHL HELM.

H. J. Brown, B.Sc., B.E., of Research Laboratories, to Miss H. M. Dahl Helm, of Sutherland, on 4th January, 1936.

SAXBY—BENNET.

C. A. Saxby, B.Sc., B.E., of Research Laboratories, to Miss V. M. Bennet, of Lane Cove, on 21st December, 1935.

A.W. VALVE WORKS

BOLLINGMORE—LORD.

Miss Hazel Lord, of the A.W. Valve Works, was married to Mr. Bollingmore, at Moss Vale, on March 19.

ROSE—FOULSTONE.

Mr. R. Rose, of the A.W. Valve Works, was married to Miss Elsa Foulstone, of Kogarah, at St. John's Church, Rockdale, on April 11.

BEDFORD—FORRESTER.

Miss Joyce Forrester, of the A.W. Valve Works, was married to Mr. Dick Bedford, at All Souls' Church, Leichhardt, on April 26.

PASCOE—MARTIN.

Miss Aldeth Martin, of the Mounting Section, A.W. Valve Works, was married to Mr. L. Pascoe at the Methodist Church, Gladesville, on June 27. The honeymoon was spent in Queensland. Mr. and Mrs. Pascoe will later settle in the Orange district, where Mr. Pascoe has a property.



● Mrs. Jack Tarpey (nee Miss Ola Dempsey, of Head Office.)

● Mrs R. Bedford (nee Miss J. Forrester, of the A.W. Valve Works.)



● Mr. and Mrs. W. Roy Parker. The bride was formerly Miss Ethel Hill, of Melbourne Office.



● Miss Doris White, of Head Office, with her father and sister, prior to her marriage to Mr. A. Byrne, of Braidwood.

BYRNE—WHITE.

Wearing a gown of ivory-white satin, with a long train cut into the skirt, a cut tulle veil held in place with orange blossom, and carrying a bouquet of gladioli and frangipanni, Miss Alice White, of Sales Accounts, Head Office, was married in St. Jude's Church, Randwick, on the 18th April, to Mr. Arrol Byrne, of Krawarree. Miss Winifred White was bridesmaid and wore a frock of pink matalasse, with a coronet of silver leaves. The reception was held at the Randwick Town Hall. The bride travelled in a frock of blue morocain with a black fur-trimmed coat, black hat and accessories.

Miss White was presented, on behalf of the staff, with a handsome set of cutlery, also cut glass goblets and jug. The presentation was made by Mr. J. F. Wilson, whose remarks and good wishes were supported by Mr. Wing and Miss Marcus.

JENKINS—LARKIN.

Miss Jean Larkin, of Sydney Sales Department, was married to Mr. A. Jenkins, of Cremorne, on the 18th April, at the Mosman Presbyterian Church. Miss Larkin, who was unattended, was charmingly frocked in an ensemble of powder blue with matching hat.

On the eve of her marriage a large gathering of fellow employees assembled in the Demonstration Room, where Miss Larkin was presented with a complete set of cutlery. Mr. Wilson, supported by Mr. Wing and Miss Marcus, made the presentation, on behalf of the staff.

MARTIN—MOBBS.

Mr. Frank Martin, of the Beam Station, Fiskville, was married to Miss Olive Mobbs, of West Pennant Hills, Sydney, on the 18th April, at St. John's Church, Beecroft, N.S.W. Prior to his departure for Sydney, Mr. Martin was the recipient of a handsome case of cutlery from the Fiskville and Rockbank staffs.

SCOTT—LA RUE.

Mr. George Scott, late of Melbourne Radio, was married to Miss Glory Bellemore La Rue at the St. Kilda Methodist Church, on May 30.

The honeymoon was spent at Thursday Island, which is considered by Mrs. Scott a most charming and romantic spot. Mr. Scott has taken up duty as radio telegraphist at the Island Radio Station.

HENLY—HOWARD.

Mr. P. J. Henly was married to Miss Peggy Howard, of Manly, at St. Jude's Church of England, Randwick, on Monday, 15th June. The bridal couple spent a short honeymoon at Palm Beach and Lapstone Hill.

On behalf of the staff, Mr. J. F. Wilson presented Mr. Henly with a fine canteen of cutlery. Messrs. R. V. Dearman and F. Noar spoke of the high esteem in which Mr. Henly was held by his associates, and Miss Sharman, representing the girls, wished him every happiness.

Mr. Henly has been with the Company for over 15 years, the greater portion of which was spent in the Marine Traffic Branch and the Beam Accounts Section. He is at present engaged in the Sales Department as representative for the Southern districts of New South Wales.

TARPEY—DEMPSEY.

The wedding of Miss Ola Dempsey, who for some years held the position of senior telephonist at Head Office, to Mr. Jack Tarpey, was solemnised at St. Mary's Basilica on Thursday evening, 19th March. A twist of pearls held the bride's tulle veil, and her frock of parchment chiffon was exquisitely beaded. Her two bridesmaids were daintily frocked in gowns of mist blue chiffon.

On resigning from A.W.A., Miss Dempsey was presented with gifts comprising an electric mix-master, dinner set, and an electric iron. The presentation was made by Mr. Wilson, on behalf of the staff, and best wishes for future happiness were extended to Miss Dempsey by Messrs. Dearman and Wing, Mrs. McCullagh and Miss M. Conolly. Miss Dempsey replied, thanking the staff for their expressions of kindness.

OLL'E—McLAREN.

Mr. J. D. Oll'e (Beam Wireless Service) was married to Miss Marion McLaren, of Ashbury, at St. John's Church of England, Ashfield, on the 4th January.

Mr. Oll'e, who is engaged in the Beam Wireless Service, spent his honeymoon at Lord Howe Island.

On the eve of his marriage, Mr. Oll'e was presented by Mr. W. G. Clarke, on behalf of the staff, with an oak mantel clock.

PARKER—HILL.

On the 4th April, Miss Ethel Hill was married to Mr. W. Roy Parker, at the Williamstown Methodist Church.

The bride's gown was of rich ivory satin, with cowl neck and plaited girdle caught by a diamente star. Her veil was of beautiful limerick lace attached to a halo of French folds and orange blossom. A sheaf of gladioli and cactus dahlias was carried, thus completing a charming picture. Her attendants, Misses Beryl Young, Norah Lascelles and little Phillis Duke wore sky-blue taffeta frocks, with bouquets of pink cactus dahlias.

Mr. W. R. Parker is a member of the Beam Accounts Staff, Melbourne, in which department Miss Hill was also engaged.

On the eve of her wedding, Miss Hill was tendered a Kitchen Tea by Melbourne staff members. The function was held in the evening, and, after an inspection of the gifts, dancing and competitions were held. On behalf of the staff Mr. Apperley presented Miss Hill with a canteen of cutlery.

JOHNSTON—HUMPHREYS.

Mr. Gordon Johnston, of Coastal Radio Accounts Section, Sydney, was married to Miss Hazel Humphreys, at St. John's Church, Milson's Point, on the 3rd October last.

Although it seems a late recording of the wedding, this is not due to an oversight on the part of the Editor, but to the fact that Mr. Johnston, being adverse to publicity, kept the staff in the dark as to his marriage. When, however, it did become known, Mr. Johnston was the recipient, on behalf of the staff, of a handsome canteen of cutlery and cut glass water jug and goblets.

LEES—ARNOLD.

Mr. Ron Lees, of Sales Accounts Department, Head Office, was married to Miss M. Arnold, at the Hurstville Methodist Church, on the 15th February.

Mr. Lees was the recipient of a handsome clock and a canteen of cutlery. The presentation was made by Mr. Dearman on behalf of the staff, his remarks being supported by Mr. L. Byrne. Mrs. McCullagh extended best wishes to the prospective bridegroom on behalf of the girls.

MARRIAGES

HUNTER—HUXTABLE.

Mr. J. R. Hunter, of Melbourne General Accounts, was married to Miss Cora Huxtable, on the 4th April, at St. Andrew's Church of England, Middle Brighton.

The traditional bridal gown was dispensed with in favour of a charming ensemble of patou pink worn with accessories in navy blue, and a spray of Cecil Brunner roses and Lily of the Valley. Miss Patricia Huxtable, frocked in a sky-blue ensemble, with a shoulder spray of Liliputian Zinnias, attended her sister. The honeymoon was spent at Sherbrooke Lodge, in the heart of the beautiful Sherbrooke Forest.

At an informal gathering at W.H.M., Mr. Hunter was presented on behalf of the staff, with a very fine canteen of cutlery.

RADIO-ELECTRIC WORKS

LEFFLEY—COUTTS.

Miss Peggy Coutts, of Unit Assembly, to Mr. Don Leffley, of Lakemba, at St. Andrew's Church of England, Lakemba, on April 4.

McDONOUGH—GREENWAY.

Miss Joyce Greenway, of Unit Assembly, to Mr. R. McDonough, of Anandale, at St. Joseph's, Enfield, on Saturday, April 10.

EMMIS-BROWN—GILL.

Miss Aline Gill, of Unit Assembly, to Mr. R. Emmis-Brown, of Bondi, at All Souls, Leichhardt, on March 7.

PEARCE—SMITH.

Mr. E. A. Pearce, of the Service Department, was married to Miss Elsie Smith, at the Dulwich Hill Congregational Church, on February 1.

FINCH—HOSKISSON.

Miss N. Hoskisson, of Condenser Winding Section, to Mr. R. Finch, at St. Peter's, Croydon, on 6th June.

MONTAGUE—PHELAN.

Mr. L. Montague, of Packing Section, to Miss S. Phelan, at St. John's Church, Ashfield, on Saturday, July 11.

ENGAGEMENTS

The engagement was announced on the 15th March, 1936, of R. H. Healy, M.Sc., B.E., of the Research Laboratories and Miss Vi Meldrum, of Manly.

The engagement is announced of Mr. H. R. Huntley, of the Fiji Broadcasting Company, to Miss Alison Ellis, of Chatswood.

Miss Coral Divall, of Unit Assembly, to Mr. George Jung, of Lake Macquarie.

Miss L. Donohue, of Unit Assembly, to Mr. W. Fergusson, of Granville.

Miss G. Rudd, of Unit Assembly, to Mr. Eric Sayer, of Lidcombe.

Miss Joan Pearce, of Winding Section, to Mr. M. Fuller, of Narellan.

Miss E. Tinker, of Variable Condenser Section, to Mr. E. Carr, of Marrickville.

Miss L. Garlick, of Winding Section, to Mr. H. Hills, of Ashfield.

Miss Rita Kingsley, of the Sales Accounts Department, Head Office, has announced her engagement to Mr. R. S. Evans.

BIRTHS

To MR. and MRS. B. C. BUTTON, on 16th March, a son (Geoffrey Edward Walter). Mr. Button is in charge of the Purchase Department, Head Office.

To MR. and MRS. P. E. DAY, on 1st April, at Fiskville, a daughter (Dawn Audrey). Mr. Day is a technician on the Beam Staff at Fiskville.

To MR. and MRS. E. W. COLDWELL, on 10th March, at the Memorial Hospital, North Adelaide, twin boys (Derek and Anthony).

Mr. Coldwell is on the staff of Adelaide Radio, and is the father of two other sons, Peter aged 7, and Brian 2 years.

To MR. and MRS. V. M. BROOKER, on 6th June, a son (John). Mr. Brooker is Manager of Broadcasting Station 2CH.

To MR. FLOWERS, of Valve Works tool-room, and MRS. FLOWERS, on June 2, a son—Allan Francis.

4 CA, CAIRNS

NEW STATION OPENED.

Residents of the far Northern part of Queensland have always experienced much difficulty in respect of broadcast reception because the climatic conditions cause static. These disabilities are being largely overcome through the establishment of a station at Cairns which was officially opened on May 16. Station 4CA has been established by A.W.A. on a high fidelity design. The latest principles in radio research are incorporated, and 4CA operates on a frequency of 1390 kilocycles (216 metres). Mr. E. T. Fisk formally declared the station opened. Reports from listeners indicate very satisfactory results within the station's service area. 4CA is the ninetyeth station on the air or in course of construction in Australia.

ST. MARY'S CATHEDRAL

NEW AMPLIFYING SYSTEM.

A modern public address system has been provided for St. Mary's Cathedral, Sydney, in lieu of the equipment set up for the Eucharistic Congress eight years ago. The new installation was designed and constructed by A.W.A., after considerable experimenting, which was necessary to determine such positions for the speakers as would give adequate amplification without echoes or "blasting". Four permanent magnet speakers of the exponential type, mounted on brackets, together with a moving coil loud speaker 40ft. above floor level, are included in the equipment. Father Hurley, Administrator of the Cathedral, has pronounced the results achieved "most magnificent". He says the Church authorities feel proud to invite visitors to hear the equipment.

To MR. and MRS. GORDON JOHNSON, on 9th July, at St. Ives Private Hospital, North Sydney, a daughter (Maureen). Mr. Johnson is engaged in the Head Office Coastal Radio Traffic Accounts.

To MR. C. GARTRELL, Special Products Drawing Office, and MRS. GARTRELL, a son (Kevin David), on 11th June.



Messrs. P. J. Graves (left) and G. Mumford.

MR. G. MUMFORD.

A new addition to the staff of the Marconi School is Mr. G. Mumford, late of the A.W.A. Marine Service.

In 1928-9 Mr. Mumford studied the School's Commercial Operator's Course and obtained his 1st Class P.M.G. Certificate.

After graduating he secured the position of Operator on a vessel in Fiji. Later he went to the wireless station at Tarawa, Gilbert and Ellice Islands colony, from whence he was appointed to A.W.A. Marine staff.

Whilst at sea he studied the School's Radio Technician's Course and was awarded the Radio Technician's Certificate in 1935.

In March, 1936, Mr. Mumford joined the Marine Section of the Marconi School as instructor relieving Mr. F. M. Basden, who has now been appointed Officer-in-Charge of the A.W.A. broadcasting station at Cairns, North Queensland.

APPOINTED TO MARCONI SCHOOL

MESSRS. P. J. GRAVES AND G. MUMFORD.

MR. P. J. GRAVES ("Whistling Rufus") was just as noisy early in 1911 as he is to-day; not that he whistled in his cradle but, undoubtedly, he made other noises. In 1927, armed with a Leaving Certificate, Maths. Honours and a University Exhibition, he joined the ranks of job-hunters. Financial impotency rang down the curtain on the Exhibition and, after refusing apprenticeships as (a) plumber, (b) dentist, he joined A.W.A. in February, 1928, as an Engineering Cadet.

Commencing in the old Laboratory at York Street, he received some two weeks able instruction in the Art of Story-telling from Mr. J. Reed. He also began the Diploma Course in Electrical Engineering at Sydney Technical College. Transferred to Knox Street factory, as assistant to Mr. Vipian, testing production receivers and transmitters, his education, begun by Mr. Reed, was ably continued by Mr. Vipian, together with an additional course in fluency of expression. Here it was that, out of gratitude (some say laziness) he almost succeeded in electrocuting his

"boss," to whom the reader is referred for details.

Twelve months later saw him back in Head Office engaged in drawing and general routine work in the old Engineering Office on the second floor with a short spell at VIS. Next port of call was the Service Department, where contact was again made with Mr. Vipian who, strange to relate, seemed to bear no malice, and made life quite pleasant for some ten months.

Interception duty on London and New Zealand phone circuits at La Perouse occupied the next fifteen months. During this time he caught one snake through bravery, three colds through the weather and innumerable kerosene tins, old dry-cells and worn out boots through his melodious whistling.

Once more he returned to Head Office for a spell of some twelve months in drawing, marine work, 2FC Control Room and outside broadcast pick-ups and 2SM Studio. Thence he imperceptibly drifted into crystal grinding (not gazing) and finally arrived at the newly-established

Standards Laboratory at Ashfield with Dr. Baker and Mr. Wilkinson. Finding after about two years that crystal grinding, as then practised, and frequency checking, were sure passports to Callan Park, he applied for a change of scenery, and spent the next four months at VIS.

Although he never achieved admission to Callan Park yet, strange to relate, he married, early in 1934, whilst at the Laboratory, Miss L. Baker, a nurse at Gladesville Mental Hospital! Since then, so he tells us, he has been sympathetically looked after.

Back at Head Office, with studies at the Technical College successfully completed, he was assigned to mobile tests with ultra short waves and the construction of a 7-metre transmitter. Both jobs were very interesting but probably caused the disturbing thinness which he says he has lately noticed in his top thatch.

Finally, he joined the staff of the Marconi School as assistant to Dr. Baker, Engineering Section, taking over the Preparatory Courses. Apparently, although the fond parent of Patricia Joan, aged 14 months, he still finds life reasonably pleasant, as it is whispered that "his music goes round and around," when the students have retired for the day.



Collie, aged 2 years and 3 months, son of Mrs. Dawson (formerly Miss Doreen Brown), who was engaged at the Works for a number of years.



Allen Barry, aged 8 months, son of Mr. V. Gain, of the Machine Shop, Radio-Electric Works.



Ronald Arthur, aged 14 months, son of Mr. R. Pound (of Special Products Dept.) and Mrs. Pound (formerly Miss H. Arter, of the Winding Section, Radio-Electric Works.)



Allan Gibson, aged 14 months, son of Mr. J. G. Lindsay, of the Service Department, Radio-Electric Works.



Fay Mary, aged 9 months, daughter of Mr. Reg. Waters, of the A.W. Valve Works.



Patricia, aged 8 months, daughter of Mr. S. Fryer, of the Special Products Dept., A.W.A. Works.



Wilfred Leonard, aged 9 months, son of Mr. J. Thomas, of the Press Shop, A.W.A. Works.



George Kenneth, aged 3 years, son of Mr. M. R. Carter, of the Special Products Dept., A.W.A. Works.



Mr. J. C. Robson, of the Production Office, A.W.A. Works, with his little daughter, Judith Susan, 7 months.

"Daddy Works at A.W.A."

INTERNAL AUDIT DEPARTMENT



Mr. D. P. Rae.

MOST people have heard of an Auditor but few have any clear idea of his duties and responsibilities. Under modern business conditions these are extending in an ever-widening field and call for a high degree of knowledge and skill.

The word is derived from the latin "Auditus," meaning a hearing, and the first Auditors' duties consisted mainly in reading out the accounts and transactions to their principals. Such crude methods could not possibly meet the complex conditions of to-day and nowadays everything must be in writing and no document bears the hall mark of integrity until it has passed the Auditor and carries his green or purple ink certification. These documents, and his work generally, cover such a wide field that the modern Auditor must have a sound business knowledge and a high degree of accountancy skill, combined with that indefinable quality colloquially termed "nose".

It is impossible adequately to define an Auditor's duties as they vary greatly with circumstances. They are described by the ethics of the profession and by numerous



Mr. H. W. Jones.

court decisions. A learned Judge once likened an Auditor to a watch-dog as opposed to a policeman, and this fairly summarises his position. An Auditor's responsibility is to his principals, which, in the case of companies, are the shareholders, and it is his duty to report appropriate matters to the right quarter, so that proper action may be taken but not to take such action himself.

The final goal of the Auditor's work is the Balance Sheet, which carries his certification that he has examined the books and accounts and that the document shows, in his opinion, a true and correct view of the position (financially) of the Company at the date shown. The Balance Sheet shows comparatively few

items but its verification necessitates the checking of every transaction since the previous balance was extracted. All assets must be verified by the Auditor, so far as he is able and their values checked, and with this object all title deeds, certificates and other documents must be inspected, stock sheets checked, bank accounts reconciled, and debtors' accounts checked, etc. Reserves to cover diminution in value of assets by reason of depreciation, etc., must be checked by the Auditor but in this he is largely dependent on the advice of the Company's technical officers.

All liabilities must be included in the Balance Sheet and the verification of this is done most carefully by the Auditor as it forms the key for this section of the work. For this purpose, all creditors' accounts, both local and overseas, are closely examined and reconciled with the Company's accounts.

One of an Auditor's most responsible duties is the detection and prevention of fraud.

The foregoing preamble deals more particularly with the work of a company's general auditor, appointed by the shareholders at a General Meeting.

There is another type of audit known as an internal audit. This is carried out by a member or members of the company's staff, and they are accountable in their work to the management of the company. Their duty is to carry out a detailed audit apart from, and not overlapping the work carried out by the company's auditors. The internal audit, however, dovetails with the external audit, and has, as its object, the elimination of errors and discrepancies at their source.

The internal check covers every cash transaction of the Company and is done in great detail. All cash received must be accounted for, receipts made out, and the moneys deposited in the Bank. Receipt books, with numbered receipts, must be issued only to officers authorised to give receipts and every single receipt must be accounted for either by a deposit in the

Bank for the amount shown on the duplicate or by a cancelled original and duplicate. Moneys are received at many distant locations of the Company's organisation and the audit incidental thereto is very extensive.

Similarly, all disbursements are subject to detailed and careful check to see that all accounts payable bear the certifications of responsible officers that goods have been received or services rendered satisfactorily, and that the expenditure has been properly authorised. The internal auditors are also responsible that moneys are paid to the correct payees and that no accounts are duplicated.

The audit of the pay is another very important part of the internal audit, and calls for the checking of all rates, increments, deductions, etc., as well as the verification of all names on the pay roll and the checking of receipts.

All orders issued by the Company are also examined by the internal Auditors. These orders are numbered and much the same audit is placed on them as on cash receipts to see that they are only issued to properly authorised officers, and that all numbers are accounted for, etc. These orders are checked with creditors' accounts at the time of passing the accounts for payment.

Many other matters have to be attended to by the Auditors. The work is sometimes tedious but it has its interesting aspects and the thoroughness with which it is done is justified by its importance.

The Internal Audit Staff comprises:—

Mr. D. P. Rae: Joined A.W.A. in December, 1926, and, after two years in General Accounts, was transferred to Sales Department Accounts as assistant to the Sales Accountant. Six months later Mr. Rae was again in the General Accounts Section, and in January, 1930, was transferred to the Internal Audit, to be later placed in charge. Mr. Rae plays tennis and also indulges in gardening.

Mr. H. W. Jones: Commenced with A.W.A. in the latter part of last year. For seven years he held the position of senior audit clerk with a firm of Chartered

Accountants. Mr. Jones has passed all examinations of the Institute of Chartered Accountants (Aust.), with the exception of the Bankruptcy paper, which he has completed with the Commonwealth Institute of Accountants. In the final Accounts paper of the Chartered Institute he obtained fifth place in N.S.W., and seventh in Australia. In March, Mr. H. W. Jones was successful in the Final Exams of the Australasian Institute of Secretaries. He plays cricket with Lindfield "A" Grade Shire team. As a bowler he makes a good wicketkeeper, and wields the willow to effect. During the winter months tennis is his sideline.

Mr. H. T. Redfern is the latest addition to the Audit Department. He has been with the Company for a number of years, and has served in many departments. An account of his career is published elsewhere in the magazine.

RADIO IN THE WILDS TELERADIO SETS.

The pedal-driven transmitter, which has been developed in Australia, especially for use in inaccessible districts, is becoming increasingly popular. These little sets, known as Teleradio equipment, weigh about 1 cwt. and can be carried in sections. Power for the electric generator is provided by a man who "rides" a bicycle-like structure.

They have been found particularly suitable for the conditions of Papua and the Mandated Territory of New Guinea, where no fewer than 36 A.W.A. sets have been established. Some are used by Government officials on their journeys into places remote from settlement, thus enabling constant touch to be maintained with headquarters. Planters and gold mining companies have lately learned of the value of this type of instrument, a call through which might save a journey of scores of miles over trackless territory.

Teleradio sets are admirable also as feeders of the main wireless lines of communication between New Guinea and the



Miss Freda Towsey.

COMING-OF-AGE PARTY.

Miss Freda Towsey, accounting machine operator and popular member of Melbourne office staff, attained her majority on the 28th February last.

To celebrate the occasion, her parents gave a large party, at which many of Miss Towsey's office friends were present. Altogether 300 guests joined in the merriment.

The function was held in the Brunswick Masonic Hall, which was becomingly decorated—green being the prevailing colour, and the tea tables looked very charming—the principal one carried a huge three-tier green cake with 21 candles.

Miss Freda looked a vision of grace in her gown of green as, with hall lights suddenly dimmed, she blew out the 21 candles. This was followed by the formal presentation of an immense golden key, which was autographed in turn by the guests.

Many happy speeches were made, followed by dancing interspersed by a musical programme.

outside world. Thus an owner will transmit a message from his own locality to Rabaul or Moresby to be sent on to a business firm perhaps in Sydney or other Australian capital. From the point of view of the owner of a small transmitter the traffic is good business as the sender, instead of paying 2d. per word to get his message to the main station, has the right of retaining 1d. for acting as his own telegraphist.

VERSATILE CAREER

Mr. T. Redfern fills Many Roles

WE have had occasion to write in the magazine of the careers of quite a large number of members of the A.W.A. staff. Most of these have been interesting; few, however, have had that degree of versatility that distinguishes the work of Mr. T. Redfern in his fourteen years with A.W.A.

Mr. Redfern joined the Company at the age of fifteen years, and was assigned to the old Bulk Stores at 218 Kent Street, Sydney. In that job one day stands out in his memory—that in which he packed 200 boxes of accessories for the old Radiola II. in a day. He was later transferred to the Sales Accounts as office boy—carrying out mailing duties, in addition to assisting Mrs. McCullagh in the then small filing section.

The following year he returned to the Stores to look after matters connected with inter-State shipping. At this time a section of the Technical and Research Department took up its abode on the top floor of the Kent Street building. Hearing strange noises above, Tommy Redfern decided to make investigations. Having done so, he made up his mind that life would be more interesting trying to make similar noises than staggering out of White's ham and beef shop in Erskine Street with a pile of paper bags, the contents of which were to appease the appetites of others.

In November, 1923, he achieved his objective and joined the Technical and Research Department. The most exciting incident in his connection with this Department was being present with Mr. Longstaff (now manager of A.W.A. London office), at Mr. Fisk's residence at Vaulcuse, when short-wave signals were received direct from Poldhu, England, on 90 metres. Another listening post was established by Mr. E. A. Burbury in a Ford truck at Willoughby.

In April, 1925, Mr. Vipan, then testing officer at the Radio-Electric Works at Knox Street, decided to adopt Mr. Redfern as his assistant. The work proved both interesting and instructive, comprising the testing of every transmitter and receiver leaving the Works, and all apparatus manufactured by H. T. Downie, who did contract work for the Company.

Growing tired of the Works, Mr. Redfern next reported to 2FC studio for duty



Mr. T. Redfern.

on outside shows. Taking a microphone and portable amplifier to all outside entertainment broadcasts proved particularly interesting. He met a variety of people and saw many different things, the "shows" varying from church services and grand opera to establishing a point in a fowlyard to "put over" a race meeting (Canterbury Park Races).

Towards the end of 1926 he was transferred to the Laboratory under Mr. J. Reed. Work was being commenced on the Beam feeder receivers. Each receiver consisted of eight metal covered wooden boxes standing in iron frames six feet high. With the exception of the frames and boxes the entire receivers were made on the spot, which, considering the complete absence of machine tools, was quite a creditable performance.

In February, 1928, he again went roving—this time to the Company's Beam stations at Fiskville and Rockbank. Not being wholly confined to duties as a watch-keeping technician, he spent twelve months on maintenance, the work embracing the

300 horse-power crude oil engines, motor alternators, generators and various water and oil pumps. Practically every phase of mechanical and electrical engineering is covered in the apparatus at Fiskville.

The 28th December, 1928, was a memorable day in the history of the Beam service, Fiskville being very nearly destroyed by fire. Every member of the staff took turns at facing a blazing roof from the travelling crane in the engine room, trying to extinguish the flames with chemical extinguishers. Mr. Shepherd probably still has the mark on his head caused by Mr. Redfern hurriedly dropping an empty container on him. With additional assistance the staff had the London circuit "under way" on the following Monday, a lapse of only approximately three days.

In July, 1930, Mr. Redfern's roving spirit took him to Pennant Hills.

In July, 1930, Mr. Redfern made yet another transfer—this time to Pennant Hills, where he was engaged as one of the technicians. His duties comprised the maintenance and operation of all the transmitters. Of late many improvements have been effected in the apparatus. Transmitters made for experimental purposes have proved so efficient that they have become established commercial circuits, extending still further the scope of the Company's communication activities.

One of the greatest advantages of a varied career is that one can view the Company's activities from many different aspects—not unlike viewing a city from many different vantage points. It permits departmental actions and operations to be viewed with a larger vision. There can be little doubt that the varied and diversified positions filled by Mr. Redfern during the last fourteen years should stand him in very good stead in the future.

For some time Mr. Redfern has been studying accounting and secretarial work, and has passed the Intermediate and all final subjects, with the exception of Final Accounts, in the Australasian Institute of Secretaries. He also holds a first class Washington Certificate.

Mr. Redfern's next transfer was to the Internal Audit Department at Head Office, where he hopes to, and no doubt will, gain valuable experience in the Company's financial and administrative operations.

RADIO PERSONALITY QUEST

FINE GESTURE BY 2CH.

A first class (return) ticket to New York, with hotel accommodation paid, a personal allowance of £10 a week, and a guaranteed appearance over the N.B.C. (the greatest commercial broadcasting organisation in the world) at a salary of 200 dollars a week.

This is the magnificent prize being offered by Broadcast Station 2CH in its quest for radio talent, and what could be more attractive to anyone aspiring to enter the magic field of radio? It is an opportunity no one with talent and personality can afford to miss.

The quest is open to all Australian-born listeners, provided they have been residing in the Commonwealth for the past twelve months.

"There is no age limit. The first thing you must do if you wish to enter, is to fill in the entry form provided and post it to 2CH. This being done, you will be advised when your audition before the judges will take place. The auditions (up to the time of the finals) are to be held privately and not over the air.

In order to ensure absolute fairness and eliminate any favouritism, the entrants will be known only to the judges by numbers, and these numbers will be adhered to throughout the quest. The entries closed on June 30th, and when the competitors (by a process of gradual elimination) have been reduced to the final ten. They will be broadcast from 2CH on Thursday night, the 30th July, when listeners will be able to cast their votes and the Judges will allot marks.

A very fair and novel method of judging has been decided upon, in which the judges and public share the responsibility of choosing the prize-winner equally.

For instance, both votes are recorded in figures, and if the judges award a competitor 90 points and the public only 60 (which added would amount to 150 points), that competitor would be placed second to the one which received 70 from the judges and 90 from the public, totalling 160 altogether. In this way the competitor placed second by the judges would be voted into first place by the public. The result of the competition will be announced on Friday, August 4th, and the win-

ner will sail for America by the Niagara on September 10 next.

Voting coupons are being published in the daily press and radio journals and distributed to all Radiola dealers in N.S.W., and every member of the listening public will be given an opportunity to cast their vote in the final competition. But all these bare facts give little idea of the true prize which awaits the lucky winner. Memories come crowding back of the gifts showered on "Miss Australia," and we cannot doubt the fact if the contest is won by a woman that Miss Radio will be dealt with in an equally generous manner.

During the past few weeks the ever-rising tide of entries has flooded the office of 2CH and extra staff has been engaged to cope with the rush of work. Entries have been received from all over New South Wales, as well as from Queensland, Victoria, and Canberra.

Many and varied is the class of song selected by the entrants in the Quest; operatic arias, love song, ballads, crooning and musical monologues being among the selections.

It is also interesting to note that more male than female entries have been received and this opens up the question as to whether the male has more personality than the female. However, we will not enter into any discussion on that important question.

The ages of the entrants range from eleven to sixty-one years and include father and daughter, husband and wife, brother and sister and aunts and uncles.

A.W.A. have received congratulations from all the leading representatives in musical circles on their enterprise in offering such a magnificent inducement to Australian artists.

The distributors of Radiotron Valves, in co-operation with the 2CH AUSTRALIAN RADIO PERSONALITY QUEST, as a mark of goodwill, agreed to pay the entry fee of five shillings for all entrants. Many letters of appreciation have been received from 2CH listeners appreciating this gesture on their part.

One married man, owing to the disposition of his wife, has not been allowed outside his home for over a year. He has

entered the Quest and applied for an evening audition, suggesting that it be made as late as possible. It is significant that he should have selected the song, "Please Don't Take Me Home."

Auditions will be carried out at the rate of 300 per week at the studios of 2CH and also at VK2ME at 47 York Street. The tenors, the baritones, the contraltos and the sopranos, followed by the crooners will be on parade and the adjudicators will have a very difficult task in selecting the winner.

The organisation of the Quest is in the hands of Roger Fair, assisted by Miss Marcus, and the work entailed calls for a good deal of concentration and planning. A very ambitious programme of entertainments has been arranged for the winner, commencing on August 14th a concert at the Town Hall, Sydney, when the winner will be announced and the finalists will present a programme assisted by 2CH artists and personalities.

Many of the leading firms of Sydney have agreed to present gifts of all descriptions to the lucky competitor who secures first prize.

THE DAILY "INTERVAL"

The contestants packed together, and come on in a wild rush. Shouldering and pushing, they were determined to achieve their object. The centre of this massed confusion was advancing to meet the whirling opposition. They meant to win through this time.

Suddenly a whistle blew and the words "Scrum down" were faintly heard.

The two teams met, and the fighting was terrific. An old professor in the audience was taking down some notes for his essay masterpiece entitled, "Survival of the Fittest."

The elbowing and fighting was now gradually finishing. The competitors had achieved their victory, and the great game had finished.

This wasn't an International Rugby Match. Oh no! It was the Sydney Sales Department having their morning tea.

-C. T. McC.

COMMUNICATION RECORD

3,000 MILES TO 'PLANE.

A record in aerial communications on the 600 metres band is believed to have been established when the Sydney and Townsville coastal stations of A.W.A. exchanged communication with the aeroplane China Clipper in flight at a distance of 3,000 miles from Sydney. At 5.1 a.m. the 'plane which was flying from Manilla to Guam was heard calling all stations and announcing her name. The China Clipper then called Hong Kong and a minute later the A.W.A. station at Sydney sent a call to the aircraft enquiring, "Are you receiving me, and if so can you hear me distinctly?" A minute later a similar enquiry was made by the Townsville station, and the aircraft replied, "Good morning, we are receiving you O.K., the China Clipper here." For a few minutes the stations worked each other and at 5.59 the China Clipper concluded with "We are due at Guam in four hours, good morning."

ADELAIDE CENTENNIAL EXHIBITION.

This exhibition, which was opened on March 20 and lasted for a period of two months, was the largest yet held in Adelaide. In its attractiveness, area, variety and quality of displays it vied with the large exhibitions held in Sydney and Melbourne.

A fine display of Radiolas and of the Company's commercial wireless equipment was made. A special feature of the display was the marine wireless equipment and the A.W.A. manufactured aircraft transmitter and receiver. Altogether the A.W.A. display served to place before visitors to the exhibition the high quality of A.W.A. products and the position A.W.A. holds in Australian wireless.

Mr. F. W. Larkins arranged the display in Adelaide, and Mr. J. K. Overbury, of the Marine Department, was in charge of the stall during the currency of the Exhibition.

WORLD-WIDE BROADCASTING.

In Australia it is possible for people in their own homes to listen to news, to propaganda and to entertainment transmitted direct from Great Britain, from most European countries, from the United States, the far East and from other parts of the world.

The time is approaching when it will be possible for one individual to address at least 150,000,000 people simultaneously in their homes in all parts of the world. The enormous potentialities of this development are not yet fully realised. One of the great possibilities is that mutual understanding among the people of the earth will come more readily by this means than by any other and ultimately some way will be found of broadcasting in a common language which will be simultaneously understood by all listeners.

From a recent speech by Mr. Fisk.

MR. H. J. LEWIS

MANAGER OF 2GN.

Mr. H. J. Lewis, who for many years was in charge of the Purchasing Department at Head Office, has been transferred to Goulburn as manager of broadcasting station 2GN. Mr. Lewis has been with A.W.A. for ten years, first at the Works, and later at Head Office.

Mr. Lewis took up studies with the Marconi School of Wireless, and last September was successful in obtaining the P.M.G. Broadcast Operators Certificate of Proficiency.

"A.W.A. BROADCASTER."

This is the title of a monthly bulletin published by the Broadcasting Department. Its purpose is to keep its actual and prospective clients informed of the activities of the various stations under the department's control. The first number was published in February and met with immediate response from advertisers throughout Australia. It is published under the editorship of Mr. R. K. Harris.



A.W.A. Display at the South Australian Centennial Exhibition



Mr. Hughie Peaston and Miss Coral Miller.



Offices and Transmitting Station of 4WK.



Mr. A. E. Lawrence.



(Left): Mr. A. E. Lawrence, Station Manager, and Miss Coral Miller.



Mr. Lawrence's children—Neville, aged 3, and Jean, aged 4 years.



Portion of series modulated 50 watt transmitting equipment of 4WK, Warwick.

NEW ZEALAND AS SEEN BY MR. J. G. COOKSON

WHEN asked by the Editor for a few impressions of New Zealand, I realised that I had not analysed my thoughts in that regard. Although accused of having been on a Cooks' tour, my two years in New Zealand were to me mostly a crooked line between two points—the site of a new station and the nearest city which could provide the wherewithal for the job in hand. The associations were mainly opening dates and weather conditions.

Looking back from this distance one is reminded of the large part weather plays in one's life in New Zealand. The long journeys in rain and mist over ever-winding, narrow and slippery roads, or by way of change, against blinding snow or through clouds of dust over miles of loose shingle, are unforgettable. New Zealanders are very weather-minded, and the cities of the Dominion are as jealous of their favourable weather as is Sydney of its Harbour and Melbourne of its wide streets and fine lay-out.

But the charm of the New Zealanders help one to forget the vagaries of their weather. Their quiet voices, simple manners and attitude of friendly helpfulness leaves one continually in their debt. This charm is further reflected in the neat and picturesque towns and the farms with their trim homesteads and out-buildings. They give the country a homely and very pleasing appearance, and serve to indicate the prosperity and progressive outlook of the people.

On the other hand, there is no lack of aggressiveness. This is well illustrated by the ability and energy with which the turbulent forces of nature have been harnessed against great natural obstacles to provide power and light throughout the country. The reticulation of power and light plays an enormous part in the domestic and industrial life of New Zealand.

The power stations of Waikaremoana, Mangahao and Arapuni, in the North Island, and Waitaki and Waipori, in the South Island, are great engineering feats, and almost insurmountable problems in their construction and operation have been successfully solved.

These turbine stations are usually in mountainous and rugged country and at

altitudes experiencing severe snow storms and low temperatures. Great hardship is mostly the lot of the linesmen and engineers who build and maintain the numerous very long 110,000 volt transmission lines which connect the cities, towns and farms. In a storm last year every telephone and telegraph line out of Christchurch was down through snow loading, and many of the power lines failed. However, they were soon repaired, despite the snow and frost.

The turbine stations are mostly in low level country with a precipitous and mountainous background, rising steeply to higher levels. It is very confusing to start off from the power house and climb steadily for upwards of an hour and then come on a huge lake with turbulent mountain streams flowing into it from higher lands again. Waikaremoana, in the North Island, is of this type. Its overflowing waters are diverted to the giant turbines in the power house several hundred feet below. Lake Waikaremoana (sea of rippling waters) is a beautiful sheet of water, with small islands and picturesque bays and shores. It lies at an elevation of 2,050 feet above sea level, and the main range, known as Huiarau, rises some 2,000 feet above the lake. In summer time it is a popular camping and fishing ground.

Within sight of Waikaremoana runs for many miles the most wonderful scenic highway in the North Island of New Zealand. This is the road between Gisborne and Rotorua, and providing one is blessed with good nerves and unbounded confidence in the driver, is a most enjoyable trip. Huge pine forests are planted on the lower country and herds of deer abound.

The settlers in this part are mostly Maoris and their lot seems to be made up of a little work and a lot of tongs. These functions appear to take the form of religious exercises, orations and feasting. The slaughtering of animals for a feast is a common sight on the roadside. Overloaded horses, sulkies, buggies, cars and lorries carrying Maori men, women and children, together with clothing and blankets, are frequently met with. This applies more so in Rotorua, and one can see in the streets adjacent to the Pakeha's residences, pigs being disembowelled alive.

Rotorua is remarkable for the midget proportions of most of its thermal wonders. The blowholes and mudpools are cameos of what one expects, and even the many coloured sand-hills and the blue and green lakes are small. The all pervading smell of sulphur calls to mind brimstone and sulphur, reminding one of Dante's Inferno, and suggesting enormous invisible forces, and the possibilities of earthquakes with the attendant tremendous upheavals as was experienced at Napier in 1931.

The Wairakei Valley, near Taupo—midway between Rotorua and Napier—is probably New Zealand's greatest show-place, with its mud volcanoes, beautiful mineral terraces and mountains and boiling geysers throwing jets a hundred feet into the air.

There is hardly a family at Napier which did not lose a relative, but there is no thought of abandonment. A model township has been built on the ruins of the old. It is a strange experience to walk along streets which were once the bed of tree-lined streams on which yachts proudly sailed; to see aeroplanes land at a perfect aerodrome, at one time a proposed site for wharves. Earthquakes have little place in the minds of the people, and the foreigners' idea of a shivery isle is much resented.

Nevertheless, this does not exaggerate the conditions very much in the earthquake belt. Due to continual slips from the high lands huge expenditure is incurred in maintaining roads. It is a common sight to see large areas of pasture land which have slipped away from the sides of the hills, and run into streams or gullies lower down. The day is not far distant when much of the highland pastures will be barren from this cause.

This trouble has become serious in the mountainous regions of the South Island. Here great herds of deer are eating out the natural herbage and breaking the surface of the soil, exposing it to the action of heavy rains which carry it away to swiftly running streams and so to sea. Much of the beauty of Westland and Southland is thus being destroyed. The fate of these districts is shown by the terrible barrenness of a large part of the mountain ranges in Otago, especially be-

tween Cromwell and Queenstown. This is the centre of the picturesque lake district of Otago, and is reached by roads which pass through the gold bearing districts of Central Otago and for many miles follow the river Clutha. Along the flats of this river are the rich fruit districts which have been established in the wake of the early gold rushes.

Near Roxburgh, in a lonely gully known as Coal Creek Flat, is a monument erected to the memory of some early miners who lost their lives through being snowed in during a severe winter. The mountain ranges rise sheer to five and six thousand feet, and even in summer, despite good roads, motor transport and railways, it is easy to visualise the utter helplessness of anyone so unfortunate as to be snowbound here. But as one passes Cromwell the desolation and barrenness of the country is overpowering. For miles the hills and mountains are devoid of life of any kind, bringing home to one the sturdiness of the old pioneers and the power of the gold fever. The blazing sun in summer and snow in winter call for extreme hardihood in the gold seeker, and the occasional sheep farmer.

If one is looking for primitive, natural conditions, one can get very close to it here. There is abundant evidence of enormous recent upheavals, and the way in which water, snow and frost alter the surface of the earth can be clearly observed. Large areas which were obviously plains have been pushed up to an angle of many degrees above their position, and great plains are again being formed as melting snows tear away the sides of mountains, depositing the soil on the lower reaches of swiftly running streams.

A fair amount of gold is won from the beds of these streams, but the great expense of the dredges, the fineness of the gold and the swiftness of the streams result in but little profit. I saw a month's wash-up from one of these dredges. Valued at £1,200, it consisted of small pale yellow pellets, mostly the size of split peas. Much of this country had been dredged previously or was considered too poor to work, but with the increased price of gold many men make a living working over the old ground—a few make a small fortune.



MR. J. G. COOKSON.

Mr. Cookson is a native of Sale, where he qualified as a steam engine driver. Then he joined the Central Exchange of the Telephone Department and two years later entered the Navy as C.P.O. Engineer. He was appointed to Townsville, where his earlier studies in radio proved of advantage, and he fitted up a transmitter to work with Rabaul. He was next stationed at Cooktown, where after three years he was transferred to Sydney.

On the signing of the Commonwealth Agreement in 1922, Mr. Cookson became a member of the A.W.A. staff. In 1924 he was appointed engineer-in-charge of broadcasting. The broadcast transmitter was located in the old Knox Street Works,

whence A.W.A. transmitted programmes three nights a week. Later he transferred to the transmitting station of 2FC at Willoughby, where he was associated with Mr. Percy Farmer. Here Mr. Cookson carried out experiments with Mr. S. N. Newman, establishing communication with England on 80 metres.

In 1925 with a number of other A.W.A. engineers, Mr. Cookson was sent to England for a course of training in the Marconi College at Chelmsford, preparatory to the opening of the Beam Wireless Service. He was particularly impressed with the world ramifications of the Marconi organisation. At that time, in addition to six A.W.A. men in training, there were two Siamese, two Japanese, two Greeks, four Spaniards, a Swede, and three Marconi engineers who had been abroad and were being brought up-to-date in the latest radio apparatus.

On his return to Australia, Mr. Cookson was appointed officer-in-charge of the A.W.A. Radio Centre, Pennant Hills.

For the past two years Mr. Cookson has been engaged in installing the broadcast transmitters, designed and manufactured by A.W.A. to the order of the New Zealand Broadcasting Board, at Auckland, Christchurch and Dunedin.

Mr. Cookson is about to go on leave, and we wish him a most enjoyable holiday.

SYDNEY SALES NOTES

Mr. W. Pulford has been transferred from the Sales Accounts Department to country sales staff. Mr. Pulford will be employed first as traveller in the southern districts.

Mr. P. J. Henly, recently in the Sales clerical staff, is also in the country. His territory is the south coast.

Mr. K. Spinney, Sales Department accountant, recently spent his holidays at the Lapstone Hotel.

Mr. Ron. Lees has been recently transferred from the Customs to the Sales Department Accounts.

The sights of the South Island are the Lakes District, Franz Josef Glacier, the Sounds and Mt. Cook (12,350 ft.). To satisfactorily see any of these requires a fair amount of leisure, good, warm clothing and the services of a tourist agency.

Chamois deer roam the bush-covered hills, and wild pigs give good sport in season. Wild duck and pheasants also make big bags. One requires a licence to fish, but the fish are fairly plentiful. In the Taupo district, the centre of trout fishing, twelve pounders are not uncommon. In one season an English sportsman is reported as having caught a quarter of a ton of rainbow trout, chiefly with dry fly.

A.W.A. PROVIDENT FUND

Applicants for membership of the above Fund approach the Hon. Secretary-Treasurer in various ways. Some want a lot of information; some want very little. There are some who know all about it from existing members, and there are those who merely know it to be the excellent scheme it is.

The Hon. Sec.-Treasurer has grouped several of the questions asked, and because of their general appeal they are reproduced here for the information of the Staff generally.

Question: Who can join the Provident Fund?

Answer: Any person not exceeding sixty-five years of age employed by Amalgamated Wireless (A/sia.) Ltd., Amalgamated Wireless Valve Co. Ltd., The Goulburn Broadcasting Co. Ltd., and The Grafton Broadcasting Co. Ltd. are eligible for membership.

Question: What is the cost to join?

Answer: The Entrance Fee is one shilling, and subscription 3d. per week. There is no need to pay cash. Upon your application being accepted and given the necessary authority, the Accounts Branch will deduct the amount due from your salary weekly, fortnightly or half-monthly, according to how you are paid.

Question: What benefits are offered by the Fund, and when is it paid?

Answer: The Fund provides (under the Rules) that on the death of a Member a Mortuary Allowance of Sixty Pounds, together with an additional sum as provided under Rule 19A. shall be paid to the Beneficiary you nominate.

The aim of the Fund is to pay the amount due in cash within twenty-four hours of notification and/or evidence of death of a member.

It is intended to increase the benefits of the Fund as soon as its financial stability shall permit.

Question: How is the Fund controlled?

Answer: By a Board of Management elected by Members of the Fund at the

Annual Meeting. The present office-bearers consist of:—

President: Mr. J. J. W. Lamb.

Trustees: Messrs. G. Apperley, H. E. Rowe and J. Murray Johnson.

Sec.-Treas.: Mr. H. J. Neill.

Three other Members: Messrs. F. T. McGrath, R. R. Freeman and T. Spencer.

The Board of Management meets monthly to conduct the business of the Fund, and the Annual Meeting is in September of each year.

Question: Where can Application Forms be obtained?

Answer: From the Hon.-Sec.-Treasurer or from the Sydney Representative, Mr. J. Calder, of the A.W. Valve Co., Ltd.

Question: How many claims have been paid by the Fund?

Answer: The Benefit has been paid to the beneficiaries nominated by the late Messrs. Buchan, of King Island, and A. C. Baker. Consideration is being given to the circumstances of Mr. Francis Barclay, a member of the missing ketch "Hermes".

Question: What is the present membership and financial strength?

Answer: With a membership of 408, the Fund has available an amount of £850 to meet future claims.

The Board of Management of the A.W.A. Provident Fund invites further enquiries or suggestions from the staff of A.W.A. and Associate organisations.

"MARTIAL FOOTNOTE.

"All jokes about messenger boys dawdling on their way should now cease in Melbourne. I cannot claim actually to have seen young message-bearers sprinting across the city, but I can tell you of a sight only slightly less remarkable than that. Six A.W.A. messenger boys, marching two by two under the command of a senior along the Elizabeth Street footpath, caught my eye. Not a head turned to look at a shop window, not a file faltered in the urge to inspect a car parked by the kerb. I longed for a

MISS JEAN CONSTABLE Goes on Leave

A very pleasing function took place on the third floor of the Melbourne office on Tuesday, June 23rd, when the entire staff gathered together to bid au revoir to Miss Jean Constable, who, after the completion of twenty years' faithful service, has been granted six months' furlough.

In very warm and eulogistic terms, Mr. G. Apperley, Victorian Manager, paid tribute to Miss Constable's sterling qualities. Her thoroughness in her work left nothing to be desired, while her happy disposition endeared her to all those with whom she came in contact. He felt sure he was voicing the opinion of all when he said she would be greatly missed during the next half year.

On behalf of the staff, Mr. Apperley asked her to accept a wristlet watch as a mark of the esteem and genuine affection in which she was held. In responding, Miss Constable, who was visibly affected, said she felt too overcome to adequately express the appreciation she felt. Now that the time had come for her to go, even though it was only for six months, she found herself almost wishing it could be postponed indefinitely. She would always value the beautiful watch and the good wishes that went with it.

The Editor of "The Radiogram" desires to wish Miss Constable a pleasant holiday, and takes this opportunity of expressing his thanks for the large amount of staff news from Melbourne office which she has contributed to the magazine. Miss Constable never seemed more pleased than when sending a sheet of staff notes concerning her fellow employees.

dog fight to put this Guards-like discipline to boyhood's supreme test."

On arrival at the gymnasium, instruction is given in Swedish drill, boxing and wrestling.

For the last term the gymnasium authorities made the following awards. Largest number of points in the Beam class, Messenger F. Robjant. Honourable mention awards, Messengers Wilson and Hildebrand. To Messenger Robjant they also awarded their medal for proficiency in the course covered.



TOP: Daily 11 a.m. parade of Beam Wireless (Melbourne) Messengers, prior to marching to gymnasium.

INSET: Messenger Fred. Robjant, who won the last term efficiency medal of the Bjelke Petersen Institute, where the boys receive Physical Training every morning.

BOTTOM: Beam Wireless (Melbourne) Messengers on the march.



BEAM WIRELESS (MELBOURNE) MESSENGERS.

"THE KING PASSES"

(By AKTUG)

January 21st, 6 a.m.

THE fresh, clean-shaven and energetic morning contingent, with the newspaper in their bags or under their arms, were as subdued and restrained as the tired-eyed and dishevelled night staff going off duty.

The customary cheery salutations were missing: the usual sarcastic quips and shafts of wit were left undirected.

The oncoming staff had read in their papers the sad news which their colleagues had been "handling" throughout the night—the life of their beloved Sovereign was peacefully passing to its close.

Within a few minutes each Telegraphist, Clerk, Bundler, etc., was at his allotted point. On an occasion such as this the operating room of the Beam Wireless Service could, in some respects, be likened to a busy newspaper office. But, there is a distinct difference!

In this veritable nerve centre everything functions methodically, and is carried out without the slightest trace of uncertainty or confusion. From the Supervisor downwards every member of the Staff is an expert in his own particular line. This is why millions of words are handled annually with meticulous accuracy—the reason this unique service has managed to keep faith with the public since its inauguration in 1927. It may be well said that the phenomenal success of the Beam Service is in no small measure due to the careful selection and thorough training of the experts who now comprise the personnel of the operating and Technical Sections.

A glance around the room shows that each member of the Staff is fully seized with the task before him, and is responding magnificently. Official bulletins, followed by long Press messages, are coming through without ceasing. Standing alongside the London unit, watching the incoming signals with an eye like a hawk, is the tall, long-faced Senior Telegraphist; his job is to see that the signals on the undulator slip are of good formation and easily decipherable. He is doing his job well. Sitting beside him is the official

gummer. No one envies him. At a speed of over 200 words a minute he is gumming the tragic story of the King's passing on to the pad in front of him. No let up for this man! He doesn't seem to mind, however. The higher the speed the better he likes it.

Sitting by the Sydney circuit, keeping a vigilant eye on the galvo. and an ear on the relay, sits another Telegraphist. He is visibly affected by the story of the King's last hours, which is going through to Sydney at the speed of light. Further along, typing as they have never typed before, are the three transcribers. These are the men who transpose, for the newspapers, the seemingly unintelligible hieroglyphics which appear on the undulator slip.

As the morning wears on, with each press message the atmosphere becomes tense, and an air of tragic expectancy seems to permeate the whole room. Each succeeding bulletin prepares the world for the ultimate.

As the hands of the four clocks point to ten, the 'phone bells start to ring. The newspapers are hungry for news. Acting on the supervisor's instructions, the lines to each paper are kept open—an officer from each waiting for that which is now inevitable:—

"10.33 a.m. RUSH OFFICIAL
KING DIED 0011."

The office becomes comparatively quiet. Every newspaper has the pregnant message in less than sixty seconds! The 'phones are silent, and even the Telegraphists who are used to the extraordinary, seem to react to that vague yet intangible "something" that is associated with the passing of a King. From now until they are relieved at noon, the morning staff work at high pressure, dealing with every phase of the King's life, and that of the Royal Family.

And throughout it all there has been no confusion—due to the efficiency of the services pioneered by our own Chairman—nine years ago.

GOD SAVE THE KING.

PROVED ITS WORTH

Automatic S.O.S. Sender

LESSON OF THE NALPA.

The mishap to the steamer Nalpa off the coast of Queensland afforded occasion for the first real use of the new automatic distress signal wireless transmitter developed by A.W.A.

In conformity with Commonwealth and State legislation, the company had, within the past year, fitted 70 coastal vessels with the S.O.S. auto transmitter.

The instrument was first placed on a ship about three years ago and on innumerable tests had proved effective. A.W.A. officials could not help experiencing a feeling of satisfaction that so soon as it was used in a case of actual necessity an immediate response had been received.

The auto distress transmitter sends out the S.O.S. by the mere pressing of a switch. Anyone can work it and once started it continues to transmit the distress signal, together with the name and position of the ship. Additional equipment is provided by means of which the ship's officer or other person acquainted with the Morse code can tap out any additional information. This instrument was intended for use over comparatively short distances—say, up to 200 miles—but we were very pleased to receive a radiogram from our hermit operators on Willis Island, informing us that they had received the Nalpa's signals in daylight while she was being towed by the Marella. The intervening distance was 600 miles which is an excellent testimony to the little automatic distress signal transmitter.

REJUVENATION.

Extract from letter received from a country Radiola Distributor regarding one of his clients—

"She is always full of complaints and recently she has had a fresh tone and volume control put in and this week a fresh filter condenser."

There is no bank account that can balance a sweet, gracious personality; no material wealth that can match a sunny heart, and an ability to radiate helpfulness.

MELBOURNE OFFICE

NEW SOCIAL COMMITTEE FORMED IN MELBOURNE.

At a General Meeting of the Melbourne Staff it was decided to form a Committee to handle all social functions. Mr. Murray Johnson was elected President, Mr. E. C. Haynes Hon. Secretary, and Miss L. Heathcote Hon. Treasurer, together with the Misses Joseph, Thompson and Sommerville and Messrs. Rowe, Brown, Boord, Freeman and Muller.

PICNIC AT FISKVILLE ON EIGHT HOURS DAY.

On Eight Hours Day a picnic was held at Fiskville. The party, numbering between forty and fifty, accommodated in cars and a motor coach, left Queen Street soon after 10 o'clock, and were met by a contingent from Rockbank en route. After a brief halt at Bacchus Marsh and lunch at Pike's Creek, all cars assembled in Ballan township and in a procession led by Mr. Apperley made good time over the seven miles up to the station. A time trial conducted over a distance of 4 miles was tied for by Mr. Pringle and the coach driver. During the afternoon a cricket match was arranged, whilst several enthusiasts made use of the tennis court.

A break in the proceedings was made for afternoon tea, very generously provided by the ladies of Fiskville.

Two races for children were contested with these results—Girls: 1st, Carmel Wigg; 2nd, Joan Pringle; 3rd, Pat Young. Boys: 1st, Paul Cooper; 2nd, Ken Cooper; 3rd, John Cooper.

Future Stawell Gift runners, beware of the Cooper family! Unfortunately, the weather became very unsettled towards the end of the afternoon, and some parties commenced the run home earlier than was intended. However, those who remained for tea, ended a very enjoyable day with dancing in the hall.

MR. H. E. ROWE, DIP. COM.

Mr. H. E. Rowe, Melbourne accountant, recently passed the examination at the University of Melbourne, for the Diploma of Commerce degree. Congratulations, Mr. Rowe.

CHILDREN'S PARTY.

For the Melbourne Office Annual Children's Party, Mr. J. M. Johnson made available his spacious home and grounds, situated at Hawthorn Road, Brighton. Over sixty adults, comprising friends and parents, attended to watch the young folk enjoy the fun and frolic.

All kinds of children's games were indulged in, and the fun came to a climax with the appearance of Father Christmas (alias Ted Haynes). A real Christmas tree, most picturesque in its natural surroundings, delighted the children. A small pony and gig proved in much demand for the kiddies' joy riding. Mr. Spencer, arrayed in the garb of a policeman kept law and order.

A large maypole centering the grounds looked brilliant, and the antics on the central pole and elsewhere of Master Robert Reid, convinced the wee folk that a real live spider had come to join the happy throng. Bob was an adept in the role of the big black spider, having donned a professional costume in which his father had appeared on the New York stage.

Altogether the party proved an outstanding success, and Mr. and Mrs. Johnson were warmly thanked for their hospitality and generosity in making available their charming home.

MISS HEATHCOTE VISITS SYDNEY OFFICE.

Miss Lorna Heathcote, cashier at Wireless House, Melbourne, recently paid a visit to Head Office. She motored over from the Southern Capital, and during her short stay in Sydney found time to renew old A.W.A. friendships. Incidentally, we found her comparing notes—not paper ones—with Miss D. Clarke.

Miss Heathcote assured us that she enjoyed her stay and made the most of Sydney's entertainments. She returned to Melbourne, via the Hume Highway, spending a day or two exploring the Federal Capital.

MISS BELLCHAMBERS LEAVES FOR ENGLAND.

Miss I. E. Bellchambers recently resigned from the Company's service, in order that she might spend an extended

holiday in England—her birthplace. Her Melbourne friends hope to see her back before long.

Originally with the Sales Department, this officer was transferred to the Beam Traffic Investigation Department upon its establishment, where she soon became a valued and well-known staff member.

On the occasion of her departure, the staff informally assembled to wish her bon voyage and an early return to Australia. A presentation, taking the form of a wallet of notes, from the combined Victorian staffs, was made by Mr. Apperley. A very attractive basket of flowers was dispatched to the ship from the A.W.A. girls, followed by a radio message.

Letters received from Miss Bellchambers whilst en route, indicate that the trip proved most interesting. Latest advice indicates that she is now established in England, and has already found her way into the heart of London, even knowing a little of intricacies of "Australia House."

A.W.A. (MELBOURNE) GOLFING SOCIETY.

The Third Annual Meeting of our golfing Society was held on 1st April, when a record number of members attended.

The following officers were elected for the ensuing season:—President, Mr. A. R. Mancer; Captain, Mr. C. T. Sproule; Hon. Secretary, Mr. E. C. Haynes.

It was decided to abolish the office of Handicapper and to substitute a sub-committee, which, for this season, will consist of Messrs. Sproule, Forrest and Laws.

Monthly competitions will be conducted over the following courses: Yarra Bend, East Malvern, Medway, Albert Park and Australasian, in that order. Matches are being arranged with various City Houses and it is hoped to be able to play a match against the Radio Trade.

The standard of play should be very greatly increased this year owing to the very generous offer of Mr. Mancer, who is donating a trophy for the most improved player of the season.

The first competition was won by Mr. W. P. Atkin.



A spectacular feature of the Melbourne Ball was the Beam Messenger Boys' Parade.



CRICKET CLUB'S SUCCESS**B-TEAM WINS MORRIS JOSEPH CUP.**

A. W.A. cricket showed a marked improvement during the past season. Membership was so keenly applied for that for the first time B-grade and C-grade teams, affiliated with the Western Suburbs Cricket Association, were put into the field.

The B team, under the captaincy of L. Kennedy, were successful in winning the Morris Joseph Cup; and Mr. Kennedy says it was a pleasure to captain such an enthusiastic team—and that their success was due entirely to the collective efforts of every member. The final match was keenly contested; A.W.A. achieving victory only after five playing days. The opponents showed fine sportsmanship and playing ability; but lost to A.W.A. by 152 runs.

The C team, under the captaincy of H. Paynter, showed fine ability in all departments, and succeeded in reaching second position in their division. However, Mr. Paynter says that the C's are a better team than the B think they are!—and he hopes that this will be proved next season.

Space, unfortunately, does not permit of comment on each player, but one or two individual performances are particularly worthy of note. The highest individual score was made by J. Russell of the C team; his 125 not out constituting a club record, the previous record being 105 (out) made by C. Evans of the B team.

Wicket keeping was of a very high standard, L. Kennedy showing particular ability; while B. McCarthy kept very well for the C team, and with another season's practice should be outstanding.

Following are the best batting and bowling averages for the club:—

Batting: H. Jenkins, C Grade, 486 runs, average of 32.4.

Bowling: R. Siely, B Grade, 56 wickets, average of 9.1.

The John Bodkin Cup for the best all-round player in the "B"-Grade was won by Mr. A. Brown, and the P. Haddon Cup for the best all-round player in "C"-grade went to Mr. L. Montague.

Mr. H. Evans was successful in gaining the trophy for the highest batting aggregate in the Club; while the trophy for the best field in the women's team was won by Miss Jean Richmond.

SWIMMING CLUB'S**SUCCESSFUL FIRST SEASON.**

The A.W.A. Amateur Swimming Club, with a membership of approximately 70, has just completed a successful first season.

Handicap events were conducted at Drummoyne Baths every Thursday; and a coaching class every Tuesday.

Officers for the season were:—Messrs. W. Fleming, Secretary; S. Carroll, Assistant Secretary; R. McCarthy, Treasurer; S. Carroll, Race Secretary and Handicapper; A. Hyde, Captain; J. Lowe, Referee; P. Haddon, Check Starter; and A. Hayes, F. Hundt and G. Douglas, Judges.

Prizes for the finals in each weekly event were:—First, open order, 10/6; second, open order, 5/6; third, open order, 3/6; and the final first three point scorers were: T. O'Toole, 23 points; H. Stow, 22½ points; and C. Fleming, 22 points, while Club championships resulted as follow:—

Fifty Yards—R. Austin (27 1/5), A. Hyde (27 4/5), T. O'Toole (28 4/5).

Hundred Yards—R. Austin (1m 6), T. O'Toole (1m. 10), A. Hyde (1m. 11 2/5).

Members state that the success of the Club was largely due to the untiring efforts of Mr. S. Carroll in his multiple capacity of Race Secretary, Starter and Handicapper; and to Messrs. Matheson and Austin for their able assistance and advice.

PRESENTATION OF TROPHIES

The A.W.A. Sports and Recreation Club of the Radio-electric Works held its first annual presentation night on Saturday, July 4.

More than sixty awards were made, and dancing and cards were indulged in, the Welfare Hall being appropriately arrayed in the Club's colours of blue and gold, while palms completed the decorations.

Mr. W. G. Foster, Secretary of the Western Suburbs Cricket Association, presented the coveted Morris Joseph cup to the B-team and blazers to individual members. He congratulated the team on the success of its first year in the competitions.

Mr. E. A. Horner, presented the tennis, swimming, and other trophies. He expressed pleasure at the high standard of sport that had been attained; and the laudable manner in which the activities had been conducted.

Guests included Mr. and Mrs. E. A. Horner, Mr. and Mrs. E. C. Parkinson, Mr. and Mrs. C. J. Williams, Mr. and Mrs. W. G. Foster (W.S.C.A.), Mr. and Mrs. J. Flockhart (W.S.C.A.), Mrs. O. Peatfield (Y.W.C.A.), Mr. and Mrs. L. Williams (Drummoyne Swimming Club), Mr. W. M. Fleming (Organising Secretary A.W.A. Sports Club), Mr. and Mrs. P. J. Haddon, Mr. and Mrs. J. Bodkin, Mr. and Mrs. C. Eccles.

Mr. and Mrs. F. White, Mr. and Mrs. E. Matheson, Mr. and Mrs. W. R. Thomas and Mr. and Mrs. P. Montague.

During the evening, Mr. L. Montague and Miss P. Phelan, whose marriage was to be celebrated on the following Saturday (July 11), were presented with a gift from Works' employees.

INTER-SECTION TENNIS**SPEAKERS SUCCESSFUL IN CUP FINAL.**

In November of last year, tennis enthusiasts of the Radio-electric Works decided to form a club for inter-section tennis.

The response exceeded expectations, fourteen sections nominating teams totaling eighty players.

A committee of management was formed, comprising, Messrs. W. Fleming, P. Montague, J. Lindsay and R. Whitorn; and Messrs. F. Cross, L. Montague and J. Chambers were elected to the selection and grading committee.

Competitions began in January and were carried to a conclusion with unabating enthusiasm and keen rivalry.

Good tennis was played throughout the season, the final being contested by the Speaker and Packing sections on the night of June 15.

Packing required only a 6-3 win to gain the ultimate honours; but Speakers surprised with a 5-0 victory. As well as securing the cup, until such time as they are defeated, the members of the team, Messrs. C. Ward (Captain), W. Sparks, E. Boyd, H. Jenkins and B. Wearne will each receive a miniature. The other finalists, Messrs. E. Philpott (Captain), L. Montague, F. Durnford, H. Watson and J. Thompson will also receive awards.

The management committee is particularly gratified at the success of the club's first season; and cordially invites other tennis players at the Works to join the club.

NEW WELFARE HALL AT WORKS

IN pursuance of the management's policy of providing the best possible conditions for employees, a new Welfare Hall and Cafeteria with 15,000 square feet of floor space has been opened at the Works. It is situated on the top floor of the recently erected building on the Henry Street frontage; and outstanding features are abundant natural lighting and ventilation.

The original colour-scheme of orange and black has been retained and lends a pleasing atmosphere; while ample display space for the foodstuffs, sweets and tobaccos is provided in the glass-topped counter.

The acoustic properties of the hall are particularly good as was evidenced at the last Distributors' Conference and at the recent Works' Social. There was good

audibility in all parts; and echo was entirely absent.

Apart from the general dining-room which can be readily adapted to provide dancing space for 300 couples, there are separate rooms for senior staff, male staff and female staff.

The general dining-room has an 84 feet counter with five serving stations, compared with the 22 feet counter and two serving stations of the old cafeteria, thereby enabling all diners at each of the sittings to be partaking their meals within six minutes of the luncheon signals.

A twenty-four hours' service is provided each day. This is necessary to ensure dining facilities for night-shifts working in various departments during peak production.

According to figures supplied by Mr. Fleming, who supervises this enterprise,

the appetite of the Works is Gargantuan. For example, the fourteen hundred meals served daily account for 70 lbs. of sugar, 95 gallons of tea, 22 gallons of milk, 250 bread rolls, 150 frankfurts, 480 meat pastries, 480 cakes, as well as large quantities of other items too many to enumerate, while those with a taste for fruit consume 10 cases weekly.

And the aftermath of all this eating is like a housewife's nightmare. Picture it! Fourteen hundred each of knives, forks, cups, saucers, spoons, plates and sundry other items to be collected, washed and stacked in the special drying-racks.

After all this, we do not imagine that Miss Knoblanche and her six assistants would attack the "wash-up" at home with much relish.



Splendid appointments, natural lighting and ventilation are features of the new Welfare Hall and Cafe.



LADIES IN WAITING:
for the lunch-hour rush!
A corner of the hygienic
servery.

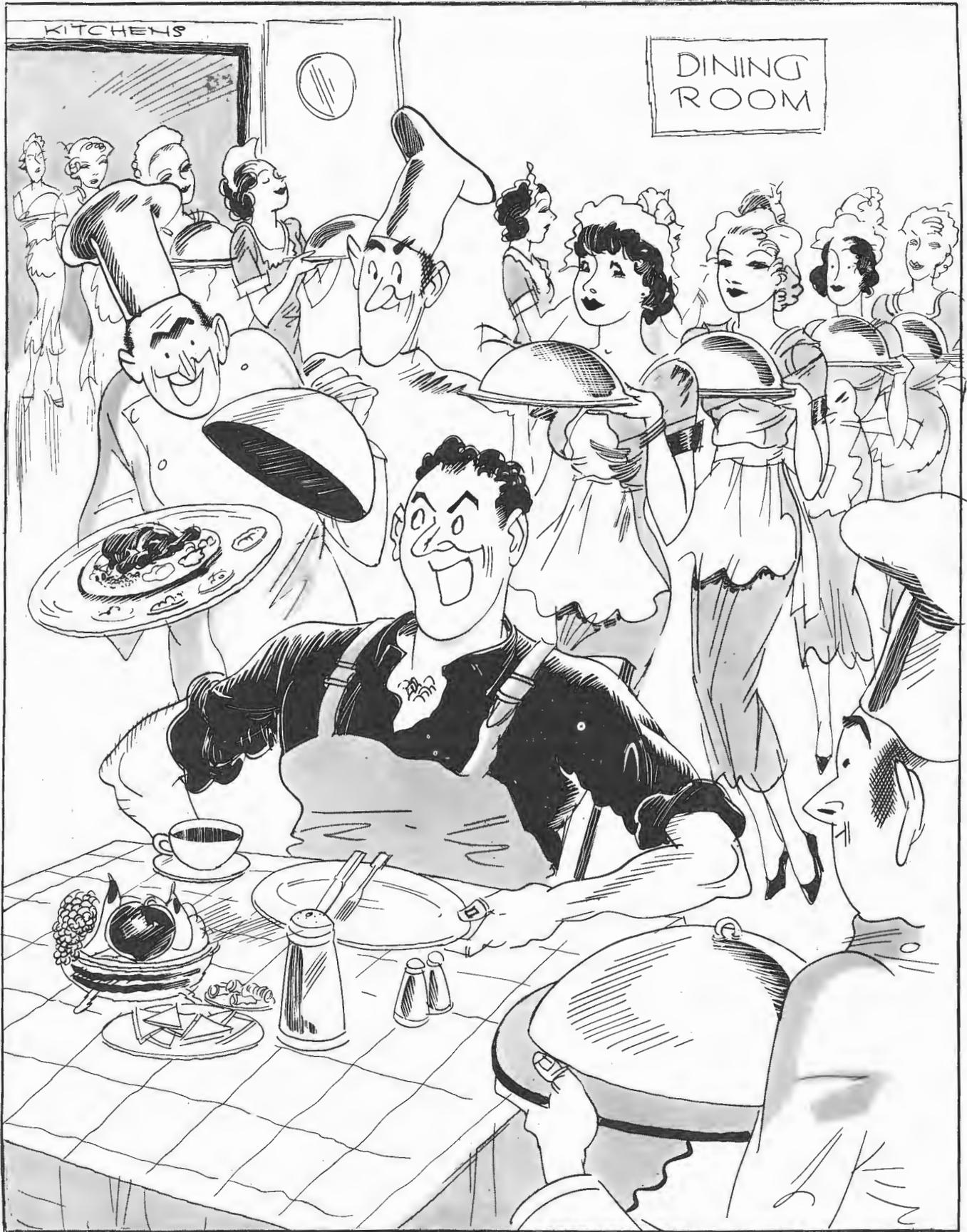


WHERE THE MALE
STAFF DINES—and at-
tempts to digest the pro-
found utterances of the
author of the "Perce
Haddon Plan."

EVIDENCE! — that
Works' employes are
tea-drinkers. Their thirst
accounts for 95 gallons
a day of "the cup that
cheers."



RADIO-ELECTRIC WORKS CAFETERIA,



WILL IT EVER BE LIKE THIS?

SUCCESSFUL SOCIAL AT WORKS

THE Works became festive on the evening of Thursday, June 4, when yet another outstanding social event took place.

Decorated with coloured lights, the stage floodlit, and coke fires casting a glad glow, the new Welfare Hall presented the right atmosphere for gaiety with abandon . . . and so the night passed.

Mr. Horner proposed the toast to the King, and Mr. Parkinson the toast to A.W.A.

In responding, the General Manager, Mr. Hooke, outlined the expansion of the Company's activities, including the growth of exports which resulted from a reputation for quality and enterprise that had become world-wide. The unique broadcasting installation on the new motor-vessel "Kanimbla," he said, had proved to be an outstanding success, even surpassing his own expectations. In discussing the new Welfare Hall and Cafeteria, Mr. Hooke, hinted that a further change was likely; and that even superior facilities were provided for in proposals under consideration.

Sporting activities of the Works were favourably commented on by Mr. Hooke, who was particularly pleased with the success of the B-Grade cricket team, and at this juncture he announced the management's decision to present annually, to the "best sport" in the combined clubs, an award to be known as the "S. M. Grime Trophy." The management felt that, as Mr. Grime had been so closely associated with the Works, it was appropriate to perpetuate his name in this way.

Later, Mr. Hooke presented Miss Norma Hoskisson with a chiming clock—a wedding gift from her work-mates with whom she was extremely popular. Miss Hoskisson was captain of the women's cricket team.

Head Office visitors included Messrs. J. F. Wilson, J. L. Mulholland, A. S. McDonald, R. V. Dearman, W. H. C. Phillips and W. G. Clarke.

Misses Sharman, Norgrove, Dunn and Dwane; and Messrs. Jenkyns, Vears and McGuinness, also visitors from 47 York Street, were unanimous in declaring the social a great success.

The Works orchestra, consisting of Messrs. A. Brown (pianist-conductor), G. Meadham, F. Roy (violins); J. Fryer, W. Burgess (trumpets); J. Brinckley (banjo); L. Montague (saxophone); and K. Bossler (tympany), was particularly pleasing, considerable persuasion being needed to convince several Head Office visitors that it was not a professional combination; and there were many regrets when dancing concluded just prior to midnight.

ACCOUNTANCY EXAMS

WORKS SUCCESSES.

Mr. A. E. Newcombe was successful in passing the Banking and Exchange examination held in April by the Commonwealth Institute of Accountants; and the final Costing examination of the Institute of Cost Accountants of Australia.

Mr. J. Shaw succeeded in Accounts and Auditing in October last; and Intermediate Law at the April examinations of the Commonwealth Institute of Accountants.



Over 450 employees attended the social function in the new Works Cafeteria.



RADIOLA DEVELOPMENT STAFF.

Left to Right: Messrs. A. O'Donnell, B.E., R. Huey, B.E., B.Sc., L. Dobbie, M.E., A. F. Martin, B.E.E., G. Hicks, Dip., S.T.C., and R. Whittorn, Dip., S.T.C.



CONSULTING COMMITTEE.

Left to Right: Dr. Pulley, Dr. Baker, Dr. Builder; Messrs. A. F. Martin, B.E.E., L. Dobbie, M.E., and Dr. Green.



PRODUCTION ENGINEERING GROUP.

Left to Right: Messrs. H. Thomas, R. B. Walker, F. R. White, E. C. Parkinson, P. Montague, G. Douglas, A. E. Mitchell, and F. Garlick.

RADIO-ELECTRIC WORKS ENGINEERS.

CRITCHER-HOLLINGER BOUT

Referee Smith Nearly Takes the Count

MADISON SQUARE GARDEN, the vacant "lot" at the rear of the Valve Works, lacked nothing of the Stadium atmosphere except the cracking of peanuts when Rus Critcher, former welter-weight champion of Australia, met Leo Hollinger, former Continental heavyweight champion, during the luncheon-hour recently.

But what was lacking in peanut cracking was made up in wise-cracking; and the enthusiastic and large audience would have delighted the hearts of the directors of the Rushcutters Bay establishment.

It was a five two-minute rounds bout; and excitement was intense from the first punch until referee Charlie Smith yelled through a blood-stream that the result was a draw.

Hollinger made the first lead but Critcher side-stepped and connected to the Continental's body with a succession of blows that sounded like a pneumatic drill, but the latter's cover was impenetrable. The referee at this stage was sufficiently recovered to distinguish the boxers from the audience and returned to his duties.

Hollinger retreated to the ropes as Critcher made a sudden attack, the Australian succeeding in reaching his opponent's body with a left hook which Hollinger repaid with a connection to the solar plexus, the gong sounding as Hollinger deftly regained the centre of the ring.

The next round began with both the champions attacking vigorously, and referee Smith was kept on the move in an endeavour to follow their speedy movements around the ring.

Again the pair embraced and dragged each other about the ring like Siamese Twins. The crowd became restless and sought by unflattering expletives to renew the exchange of blows; and Smith sensing the displeasure of the audience spoke to Critcher.

The crowd cheered; and Hollinger retaliated with a right to the jaw quickly followed by a hook to the ribs.

Critcher moved in and the pair gripped each other like Mussolini and an Adowa hero while referee Smith made vain endeavour to separate them. The gong sounded with the referee on the defensive.

Next round began with a further clinch and Smith again endeavouring to separate. Hollinger resented some remark of the referee, and punched his head, following which Smith started to pull the crowd apart.

Meanwhile Critcher, with quick footwork, deceived the Continental champion,

Apparently the referee was not diplomatic for Critcher promptly delivered a straight right to that worthy's nose and released his blood-pressure.

The gong sounded and the next round began with Smith still bespattering the ring with red; and with the welcome final bell he declared the match a draw.

The objective of this delightful entertainment was to assist a member of the A.W.A. football team who was injured during a match, and more than £3 was collected.

In view of the worthy cause, Charlie Smith must feel that his injured proboscis and loss of blood was not in vain.

WILL "TELL ENGLAND"

LOTTERY WIN TAKES WORKS' GIRL OVERSEAS.

Having won a substantial prize in the State Lottery, Miss Nellie Robinson, of the Condenser Winding Section, packed her bags and departed for England to visit her mother.

Born in England, Miss Robinson thinks well enough of Australia, however, to have crammed one of her bags with literature about the land of her adoption. And A.W.A. will not be forgotten! Numerous of the firm's booklets and brochures found their way into Miss Robinson's bag, for she is eager to tell her friends and relations of the firm and its products; of her happy associations with A.W.A. and its employees.

Miss Robinson was a prominent member of the women's cricket team. A slow bowler, she often worried opposing batswomen with a "wrong un". Her workmates were pleased to learn of her good fortune; but sorry to lose a good friend, and they look forward to her return.

SPECIAL PRODUCTS SECTION.

During May the technical section of Special Products had a noteworthy increase in its family. Dr. Pulley has joined the forces and, with Mr. Reed, is applying his talents to the solving of problems associated with large transmitter design.

It is rumoured that Mr. Reed is contemplating taking lessons in smoking to be able to lay down a counter barrage to the Doctor's ancient pipe.

The large 60 kilowatt transmitter is nearing completion and several sections are already undergoing tests. Mr. Simpson and his associates in the Test Room are having the time of their lives checking through the numerous protective circuits and high power sections of the equipment.

Two large air fans have been erected for the cooling of the water supply associated with the large transmitting valves, and as these discharge over 30,000 cubic feet of air per minute, all baby car owners have been warned that they navigate in their proximity at their own risk. (Mr. Parkinson and Mr. Napper, please note.)

Mr. Davis has been taking a keen interest in Aeroplane Beacon Transmitter design, and the new A.W.A. equipment will have every modern improvement.



A friendly bout in a charitable cause.

FIVE YEARS AGO

OPENING OF WORKS CAFETERIA

In recording elsewhere in "The Radiogram" the social function held by the Works to commemorate the opening of the new Welfare Hall and Cafeteria, on June 4 last, it is interesting to recall that a similar function, the first of its kind, was held at the old Cafeteria on April 8, 1931.

An account of this social evening of five years ago is appended herewith, as we feel that it will interest quite a large number of the older members of the Works Staff.

WORKS MUSICAL EVENING.

Over 250 employees assembled at 6 p.m. on April 8, 1931, to do justice to the opening function, namely, tea. There followed musical numbers interspersed with community singing, in which all joined with great zest. Variations in the programme comprised the community song choruses being taken by the men and then the ladies alternatively.

During the evening a number of names were placed in a hat and on a name being picked out, the particular person was called upon for a song, recitation or story. The penalty for failure was a fine towards

the Ashfield Relief Fund; the sum of 30/- was collected in about 15 minutes. Among those who complied with the request were:—Mr. W. Fleming, in his usual characteristic manner, evaded payment; Jack Roberts delighted the audience with his banjo solo, the "Silent Symphony," and Mr. Horner sang.

A moving picture of the Works in three reels was shown, the last reel being the official opening of the Works by the then Prime Minister, the Right Hon. J. H. Scullin.

With the singing of the community song, "Don't Take Me Home" and "The King," the first part of the evening terminated, the lady members of the staff and the juniors reluctantly leaving for their homes.

Thereupon, the senior male members of the staff settled down with zest to a smoke social. Community songs, musical items and short stories made the evening lively and the wants of the inner man were attended to by a staff of voluntary workers. It was unanimously accepted that "Bill the gardener's" story of his country experiences was the "hit" of the evening.

The visitors comprised Messrs. Wing, Larkins, F. C. Mulligan, F. A. Noar, McSkimming, and a number of the sales staff, including Miss Sharpe, Messrs. Spinney, Coldwell - Smith, Crocker, Wright, Richards and Clark.

The snappiness and success of the function, which moved at a fast pace, was largely due to the members of the Cafeteria Committee, Messrs. Davison, Williams, Herne, Pound and Henwood, and their voluntary assistants, with Mr. Horner as chairman of the evening. The catering was left in the capable hands of Mrs. Rogers, who with her young lady aids, rendered excellent service.

During the evening items were contributed by Messrs. Williams, Fleming, Davison, Wing, Herne, Brown, Westfallen, Parkinson and Sinton, while Mr. Coldwell-Smith officiated at the piano. The orchestral items rendered by Messrs. Brown, Garlick, Goddard and Westfallen were very much appreciated.

Altogether the Committee must be congratulated on their first social evening at the new Works, which was not only a pleasure to everyone there, but to a visitor was a convincing demonstration of the esprit de corps that exists at the Works.



WORKS CAFETERIA SOCIAL—APRIL, 1931.

SCIENCE IN RELIGION

AN INFINITE INTELLIGENCE.

A special radio service was held at the original garrison church of Australia, Holy Trinity, Miller's Point, Sydney, on Sunday, June 7, to celebrate the church's 96th anniversary.

Mr. E. T. Fisk, who delivered the address, said the development of radio communication was gradually bringing about unity throughout the world. In another 96 years, he hoped, the unity of thought would be a definite achievement despite difficulties in the meanwhile. Some years ago scientific leaders were tending towards atheism. That tendency had changed, and by a combined study of physics and astronomy, scientists had demonstrated the infinite rule of natural law. Such great men as Sir James Jeans, after much research and meditating, had demonstrated that behind creation was an infinite intelligence. It had been said by some people that the church should be brought up-to-date. That was impossible—the church was always up-to-date, the same yesterday, to-day and for ever. It taught the fundamentals of life which had existed through history and would exist always.

AIDS TO THE DEAF

RADIO IN CHURCH.

Amalgamated Wireless has provided sound reinforcement facilities for the deaf at the Presbyterian Church, Ashfield, Sydney. The system comprises thirteen listening positions for worshippers who are hard of hearing.

The system was given a trial recently and proved an outstanding success. The church faces Liverpool Road and the congregation experiences the disadvantages of tram and fast road traffic. An amplifying system was the remedy of which Rev. R. J. H. McGowen thought, and A.W.A. fitted microphones at the pulpit and communion table, and two speakers in the transverse ceiling beams. The positions with headphones were an afterthought. Each "listening post" is provided with a volume control, so that the 'phones can be adjusted to any degree of intensity.

LIFE ON A NEW GUINEA OUTSTATION

MR. H. D. HOLLAND'S SEVENTEEN YEARS' EXPERIENCE.

AFTER seventeen years spent in the Mandated Territory of New Guinea, Mr. H. D. Holland, radio-telegraphist in charge of A.W.A.'s station at Kavieng, has returned to Australia on leave of absence which he is spending at Flinders, Victoria.

Mr. Holland's practical career commenced early in the War when he went to Gallipoli with the 8th Light Horse. He returned to Australia in September, 1915, suffering from war injuries, but not wishing to take his discharge and having no fancy for home service, he enquired the possibilities of returning to the scene of warfare. Mr. Holland's ambition was to join the Flying Corps as an observer, and he was advised that he would require a knowledge of wireless. He graduated at the Marconi School, Sydney, obtaining his first class certificate in 1916.

On re-applying at Point Cook he was told that owing to his injuries he could not be engaged as an observer. Mr. Holland was then offered a position in the Transport Service. He served on the Beltana, Parrattah and Carina. After three years at sea he was appointed to the wireless station at Woodlark (New Guinea), which was then under the Australian Naval and Military Forces. The Postal Department took over the wireless service in 1921 and in the following year, when the coastal stations passed over to A.W.A., Mr. Holland found himself a member of the staff of Amalgamated Wireless. In turn, he has been stationed at Morobe, Madang, Kieta, and since 1924 at Kavieng, where he and Mrs. Holland raised a family of two hefty boys.

Kavieng is classified as an out station. It works with all the stations of the Territory. For traffic intended beyond New Guinea, Rabaul is the clearing station, being in direct communication with Sydney and thus with the outside world.

Mr. Holland remarked that the effects of the depression were now perceptibly passing off, being reflected in the higher prices of copra and the increased traffic of the wireless station. In spite of its isolation, life on a New Guinea out station had its compensations. There were about 60 whites in the town of Kavieng, and both men and women indulged freely in tennis, golf and swimming. The men also

played cricket. The people were all congenial to live with, and everyone was keen on some form of sport, without which life would not be worth while. A club in which both women and men were members was established in Kavieng in 1927. It had its origin among the bachelors of the town who attempted to form a club by themselves. Failing to do so, they enlisted the assistance of the married men, who joined on the condition that the institution became a mixed club. Mr. Holland was first president for the first year and has since acted as honorary secretary.

The Mandated Territory, he considers, is a healthy country to live in, provided precautionary measures against fever are taken. Alcoholic liquors, Mr. Holland says, should be used sparingly, and residents need plenty of sport. The schooling facilities at Kavieng are quite good, considering the circumstances. The education system is controlled by the Queensland Government and a scholarship is provided annually, consisting of a bursary of £30 a year, which allows the winner to go to school in Australia. Last year there were two entrants from the Kavieng school; one gained the scholarship and the other was second. Mr. Holland is training his older boy as a competitor next year.

MR. R. H. PEGUS.

After seven years' service with A.W.A., Mr. R. H. Pegus, on May 16, resigned his position as a member of the Internal Audit Staff, to return to the banking profession. On the eve of his departure, at a gathering of members of the various accounting sections, Mr. Steel, on behalf of fellow employees, presented Mr. Pegus, with an ebonite pen and ink stand.

FIRE VERSUS RADIO

READY RESPONSE FOR HELP.

A spirit of camaraderie among broadcast listeners was revealed this week when, during the "Pathway of Golden Memories" of A.W.A.'s Station 3BO, Bendigo, mention was made of the fact that an old pioneer had lost his home in a fire and that financial help was needed. Within twenty-five minutes offers of contribution were received amounting to £33. Some calls came from considerable distances afield, including Castlemaine, Mitiams, Swan Hill and Shepparton.

HEAD OFFICE ACCOUNTS DEPT.

ACCOUNTANCY EXAMINATIONS.

Congratulations to the following successful Accountancy candidates:—

G. Kimberley (2CH):

Intermediate Auditing—Commonwealth Institute of Accountants.

K. Sterry (Sales Accounts Branch):

Intermediate Bills of Exchange and Partnership Law—Commonwealth Institute.

H. W. Jones (Internal Audit):

Final Secretarial Practice, Australasian Institute of Secretaries.
Final Finance, Foreign Exchange and Banking—Commonwealth Institute.

N. C. Schwartzkoff (General Accounts):
Final Federal Income Tax Law and Practice.

Final Banking Finance and Foreign Exchange—Commonwealth Institute.

Chris. Ritchie (Head Office Accounts):

Intermediate—Accounts and Auditing. Association of Accountants of Australia.

Fred Carrick (Marine Accounts):

Intermediate—Accounts and Auditing. Association of Accountants of Australia.

Norman Harris (C.R.S. Accounts):

Intermediate—Mercantile Law. Association of Accountants of Australia.

Bruce Elliott (Beam Accounts):

Intermediate—Negotiable Instruments and Partnership Law.

(Final) Accounts (one paper). Association of Accountants of Australia.

Ivan Jones (A.W.A. Valve Co.):

Final—Accounts (one paper). Association of Accountants of Australia.

SECRETARIAL EXAMINATIONS.

L. W. Farr (Head Office Asset and Maintenance Costing):

Final examination of the Australasian Institute of Secretaries.

STAFF TRANSFERS.

Mr. E. Windows, transferred from the Sales Department is again in charge of the Customs work at Head Office, which includes also the clearing and costing of the multitudinous importations for our Works and Sales Department.

Mr. A. Stone is now in charge of the accounts of the Broadcasting Department, having been transferred from Head Office General Accounts.

STAFF TRANSFERS.

Mr. R. Lees, transferred from the Customs and Costing Department, is now Mr. Spinney's right-hand man in the Sales Department Accounts.

T. Redfern, transferred to Internal Audit Staff from Eng. Dept.

W. Milne, transferred from H.O. Gen. A/cs. from Beam Indoor Staff.

Miss C. Jewiss, Comptometer Operator, transferred to H.O. Gen. A/cs. from Sales Dept.

Mr. S. Peak, transferred to H.O. Customs and Costing Department, from Radio Elec. Works.

Miss P. Ives, typist, transferred to H.O. Gen. A/cs. from B/casting Dept.

HOW HEAD OFFICE ACCOUNTS STAFF SPENT THEIR RECREATION LEAVE.

Miss J. Scott, of Head Office Accounts, reports an interesting and varied holiday. She left Sydney on the North Coast boat, s.s. "Orara," and, after a very pleasant trip to Byron Bay, took the train to Grafton, a distance of 150 miles. A short stay at the picturesque town of Grafton, and then a motor trip to Yamba, the popular North Coast seaside resort. It is a very delightful spot, situated at the mouth of the Clarence River, and during her week's stay Miss Scott's time was spent in surfing, tennis and deep sea fishing.

Next, a hundred-mile motor trip to Lismore. The sight of the innumerable sugar and banana plantations will not readily be forgotten. After a few days at the commercial centre of Lismore, Miss Scott left for Brisbane by plane. It was her first thrilling experience of air travel, and one that she sincerely hopes will not be the last. From the air one gets a wonderful panoramic view of the beautiful North Coast, with its plantations, winding rivers and attractive beaches. Although a hundred miles by air, the trip took a brief sixty minutes. A short stay at Brisbane and then to Murwillumbah on the Tweed River by car, where Miss Scott stayed for a few days. She then joined the "Wollongbar" at Byron Bay for the return trip to Sydney.

Despite the rough weather and particularly heavy seas, accentuated by the small dimensions of the said liner, Miss Scott

proved to be an excellent sailor, and so "home again" from the most eventful holiday she has experienced.

Miss Beryl Mitchell had an enjoyable holiday at Terrigal, where she indulged to the fullest extent in surfing, riding and tennis.

Miss Marie Williams spent her holidays on the Mountains, where she sampled the many avenues of enjoyment provided. She also took the opportunity of learning to drive a motor car, and we understand returned to the city an accomplished motorist.

A New Golf Enthusiast.—Mr. Steel, Assistant Accountant, has caught the "bug" badly; this was his first "golf" holiday, and as much time as he could find was spent on the links at Blackheath, while the trout and other fish which were his particular concern on previous vacations, were left languidly in their solitude, unmolested and undisturbed.

Needless to ask how Mr. Barling spent his vacation. His failing is so well known that it could be nowhere else than on the golf links. This year he patronised Leura, and at any time of the day he could easily be located somewhere between the "1st and 19th."

Miss Betty Russell chose Moss Vale as the ideal holiday resort, though we understand golf was the big attraction. The balance of the sexes was not evenly maintained at the guest house, however, and in consequence we gather that her services were in great demand for mixed foursome events; it's an ill wind that blows no one any good.

Miss Leila Johnsen is a keen and expert fisherman, and this is no joke either! The stories of her catches are equal to any that we have heard from the very best fishermen. This year her successes were obtained at Woy Woy.

Mr. Eric Moss spent his holidays at home—not his suburban abode, but his family home, situated in the Western Riverina district, 350 miles from Sydney. He was glad to get back in the saddle again, and waxed enthusiastic about a horse he has there, which, he says, would do justice on any Sydney course.

Mr. Alec MacGregor says Kurrajong is an ideal place where one can enjoy tennis, riding and other pursuits.

The loud speakers in bedrooms and private sitting-rooms are recessed in the walls. A rotary selector switch is provided for the selection of any desired programme and a volume control makes it possible to diminish but not to increase the volume to a level desired by the listener.

Programmes from any of the 8 Sydney stations can be reproduced in each of the 60 bedrooms and private sitting-rooms as well as dining-rooms, reception-rooms and bars. Apparatus is also provided for the amplification of the house orchestra or reproduction from phonograph records throughout all public rooms.

Programmes from any one of the eight Sydney broadcasting stations can be selected at will.

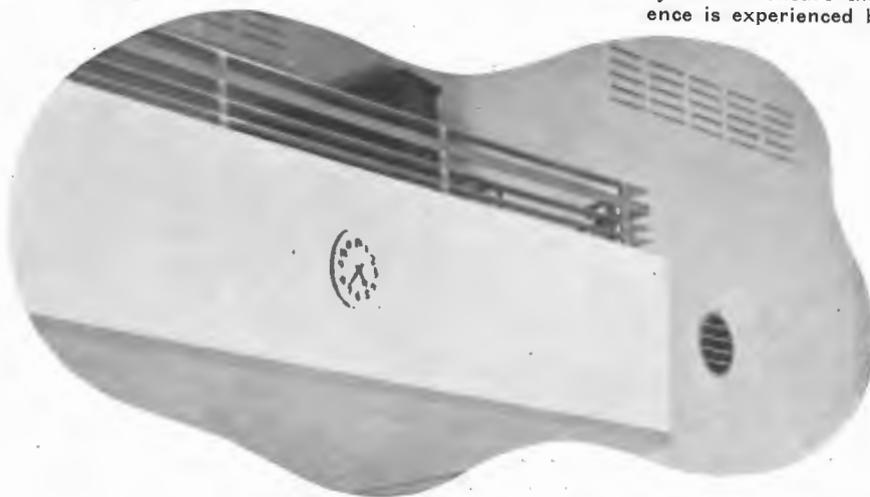


CENTRALISED RADIO at HOTEL AUSTRALIA

DESIGNED AND INSTALLED BY AMALGAMATED WIRELESS

Illustrated on page two is the Centralised Radio apparatus, comprising eight specially designed broadcast receivers of high power output. Each receiver is kept constantly tuned to one of Sydney's broadcasting stations.

At right is shown the main Distribution Panel from which distribution circuits are run in conduit throughout the building. Monitor speakers allow the attendant to fix a degree of volume available on the system to ensure that no interference is experienced between rooms.



The circle with silver bars across it, depicted above, is one of the loud speakers in the dining-room. It shows the manner in which the system harmonises with the general decorative scheme of the Hotel.



TAXATION

SOME little while ago this Magazine invited expressions of views on the payment of taxes and whilst the press has certain license in the publication of comments on matters of general interest it has been found inadvisable to publish the replies received.

Readers must perforce accept the Editor's decision that the tenor of the replies was to the effect that any such payment was unanimously considered an unpleasant and worrying duty.

Yet on the staff of A.W.A. we find a person who can still afford to smile when paying assessments and to treat them as every day affairs.

We refer to Mr. C. H. Key, J.P., A.C.I.S., A.I.C.A., A.A.I.S., but then you and I could do likewise—if the Company paid the bill.

The increasing volume of taxation matters, due to the rapid expansion of the Company's activities, the incorporation of several associated companies, and the imposition of new taxes, takes up the whole of Mr. Key's time.

During the last five years A.W.A. and Associated Companies paid in taxation (exclusive of Sales Tax, Excise and Customs Duties), no less a sum than £160,000, to which should be added the cost of the taxation services of several members of the staff.

Payment of taxes, however, is only one aspect of the taxation problem; compliance with the statutory requirements of the various taxing authorities is another.

The preparation of an individual return is, usually, a matter of a few minutes' work, but in this company's case, it is an unending duty. No sooner have one year's returns been completed and lodged, than it is necessary to commence the preparation of statements for those of the following year. Even then it is often found expedient to obtain extensions of time for lodgment.

A.W.A. and Associated Companies are subject to taxation by all States, the Commonwealth, New Zealand and Fiji, and this necessitates the preparation and lodgment of over thirty returns each year.

An income tax return for a company means a great deal of dissection work and the recasting of accounts for taxation purposes. It is, in fact, difficult to recognise the published figures of results with those accompanying the return. Last year, the Annual Report of the Directors, Profit and Loss Account and Balance Sheet of A.W.A. were embodied in eight small pages of print, whereas the typed foolscap size statements accompanying the Federal return totalled eighty, exclusive of salary and dividend lists.

Each Taxing Authority assesses under a different Act, with the result that in almost every instance adjustments have to be made in the taxation accounts for items that are allowed as deductions in one and not in another State.

In addition to this, each of the company's properties is subject to taxation by at least one, sometimes two and even three separate Local Governing Authorities who do not always see eye to eye with the Company as regards values.

Since the Company owns or controls thirty-five wireless stations and other properties within the Commonwealth, some idea may be obtained of the taxation demands made on the Company's resources in this and other spheres, and the continuous attention and often process by law that is necessary to safeguard its interests.

The forms of taxation are many and varied, and include Land, Income, Property, Hospital, Unemployment Relief, Emergency, Shire and Municipal.

At this stage readers may reasonably assume that the Company's responsibilities and expenses for a year have ended, but that is not so.

During the year it paid dividends to several hundred Absentee and Non-Resident Shareholders and, for so doing, automatically became an authorised tax-gatherer. And what an official it is! It prepares a combined return, showing the names, addresses and amounts paid, works out the proportion of each shareholder's dividend earned in the State, calculates and when paying the next dividend deducts and remits the tax to the Department concerned.

For this the Company receives no recompense, other than the "enjoyment" of the privilege of bearing all costs of collecting work, and of informing individual shareholders why their dividend cheque does not agree with the Board's advice.

After reading this our individual tax "pills" may be easier to swallow but that does not lessen the need for a means to ensure that taxation is not overpaid.

Of the many ways for avoiding taxes Mr. Key tells the following story for the guidance of fellow taxpayers. Whilst the method adopted does not carry his recommendation he assures us it is one of the most effective he knows of.

A confirmed bachelor had an exceptionally good year and, despite the application of all customary and other artifices could not reduce his taxable income below the figure of the statutory exemption.

The fact that he would have to pay some tax troubled him considerably and ultimately became an obsession. He thereupon set out to devise a way of avoiding any subsequent tax payments.

When returns were due for preparation the following year he virtually danced into the office highly elated. "They won't catch me for tax this year," he remarked, pleasure written all over his face, "I've got five children."

The office staff became a little uneasy but joined in the laugh when he told them that he had married a widow with five children. He honestly thought his action was a masterstroke against the taxing authorities—and all through an assessment for less than £10.

MR. C. H. KEY

Mr. Key joined the Company's staff in June, 1926, after several years practical taxation experience in the Federal Income Tax Department, Sydney, and in private practise where he became immune to assessment shocks.

For the first six months he was employed on Head Office duties, mainly in reorganising the Purchase and Requisition Systems for the Purchase, Stores and Engineering Departments, and was then appointed Accountant to the Sales Dept.

RADIOTRONICS

He held this position until April, 1928, when he was selected from applicants on the Company's staff for the position of Assistant to the Secretary. For the past twelve months, however, following the rapid expansion of this Company's operations, the incorporation of several associated companies and the imposition of new taxes he has been employed wholly on taxation duties.



Mr. C. H. Key.

Mr. Key is an Associate Member of the Chartered Institute of Secretaries, the Australasian Institute of Secretaries and the Commonwealth Institute of Accountants.

In the staff sporting activities, Mr. Key is also well known as a tennis enthusiast. For many years he was Honorary Secretary of the Club and a playing member of the Head Office Team.

Wireless matters, too, have claimed his interest. During the war days, Mr. Key passed the wireless and other tests for the A.I.F. Wireless Corps. Medical decisions, however, prevented his departure with the troops.

Later, he obtained one of the first Radio Dealers' licences issued in northern parts of the State.

THE departure from Sydney in March of Sales Manager, A. P. Hosking threw a greater measure of responsibility on each member of the Valve Company Head Office staff.

This recognition of the necessity for additional effort goes along way towards ensuring the desired increase in sales figures which will provide the most pleasing of welcomes to Mr. Hosking on his return.

Mr. Hosking is enjoying long service leave and has taken the opportunity of visiting his people in South Africa. His many friends, both in the Company and outside, wish him the very best of holidays.

Compensating in part for the absence of Mr. Hosking, we welcome Mr. Bailey on his return from America to carry on the good work at Ashfield. We greet Mr. Bailey and look forward with confidence to an increased factory output as a result of his overseas experiences.

Mr. Langford Smith, indefatigable in his efforts shares his time between Head Office and Ashfield factory. "Radiotronics" Bulletins, Application problems, Patent specifications, new valves, all have their share of the day's work, but no matter what the difficulty may be, it is met with that quiet determination to succeed, so characteristic of the "Unified Sales and Engineering Service."

Mr. Haworth has been seen in various parts of the metropolitan area investigating possibilities of increasing Radiotron turnover. With his usual vim and vigour he is rapidly becoming an authority on the production and use of "Sales Aids". He has made a good recovery from the throat and teeth trouble which handicapped him recently.

Mr. Sharpe is providing a service to manufacturers by using the new "Standard" to still further improve the service established with the "Triumph".

Messrs. Calder, Ivan Jones, Norman Trotman and Ray Seabrook are the "inside" team.

Under Mr. Calder's capable direction, the "internal workings" are kept running in the best possible manner. One may hear a mention of "Excise Book" or "Sales Tax register," but never is there a suggestion that such things occupy more attention than they should in the routine procedure.

"Efficient operation" is the keynote of the Valve Works. The high standard of "Radiotron" is maintained and every day our operatives are showing the Radio Industry in Australia that it is possible for Australian workers to hold their own against, and even to improve on, the work of overseas factories.

To quote but one instance: An analysis of figures recently quoted in a trade paper shows that 80 per cent. of the battery operated "branded line" receivers being marketed to-day use Radiotron 1C4 valves. This valve was designed for Australian conditions and the extent of its popularity with manufacturers is indicative of its worth.

Developments in valve production gave us "all-Metal" valves and it will now be only a short period of time before Australian "all-Metal" valves are available.

MARCONI SCHOOL OF WIRELESS

THE "FLYING COP."

Constable E. Ditton, late of the N.S.W. Police Force, has now secured a position as pilot with the Qantas Empire Airways on the Darwin-Singapore route.

He studied wireless at the Marconi School and gained his 1st Class Operator's Certificate. He also obtained the Radio Mechanic's Certificate of Proficiency awarded by the School.

He joined the wireless section of the N.S.W. Police Force and while there he took up flying and became known as the "Flying Cop."

He secured a commercial B Class Pilot's licence and also an Air Navigator's licence.

Mr. S. Boutell, of the Sydney Beam Office, secured his 1st Class P.M.G. Certificate at the examination held last March.

The special class for training ships' officers for the 3rd Class Certificate was concluded on April 6, 1936, after continuing for one year. Approximately 80 officers completed their training and obtained their certificates.

HOW RADIOTRON VALVES ARE MADE



MR. T. BARRY.

Hydrogen Firing.

Hydrogen firing small metal parts—After heating to a bright red heat in an atmosphere of hydrogen the parts are mirror bright.



MISS I. HOSKINGS.

Mounting.

All valves are mounted by hand, since it is not possible to do this operation automatically. Great accuracy is secured through the use of jigs on which electrodes are mounted, and they are held in place by means of the carefully-located holes in the mica end pieces.



MISS M. BELL.

Bulb Spraying.

The bulbs are sprayed with a black coating on the inside in order to give uniform electrostatic charge around the whole bulb: This coating is applied to the whole of the bulb and then wiped off except from parts where it is required.

Assembling

Every part that goes to make up the internal construction of a valve is within easy reach of these assemblers.



MISSES N. MUNRO (foreground) and T. DAVIDSON.

Sealex Machine.

This machine both seals in and exhausts the valves. Each valve goes around the machine twice—the first time on the inner and higher heads for sealing in, after which it is removed by hand and placed in the outer exhaust positions.

Flare Machine.

This machine is fed with long lengths of glass tubing and automatically heats the glass, flares out the end, cuts off a fixed length, flattens out the portion which will later form the stem-press, and anneals the product.

MR. N. KEYS.



MR. D. FRASER

Cathode Coating.

The filament for valves such as 80 or for battery types, is put through a continuous process giving three coats, each separately dried by an automatic machine.



OBITUARY

LATE J. W. MCKAY.

On Saturday, February 29, there passed away at Leura Hospital, on the Blue Mountains, one of the Company's oldest members of the Marine Staff, Mr. J. W. ("Jock") McKay.

Mr. McKay was well-known throughout the service, especially to the older members of the staff. His kindly disposition endeared him to all with whom he came in touch.

At the age of 22, he arrived in Sydney in 1911 as wireless operator on the Blue Funnel liner *Anchises*, at about the time when the first Australian ships were being equipped with radio. Mr. McKay remained as operator on the *Anchises*, travelling between Australia and England, until 1913, when he joined A.W.A., which company was then laying the foundations of a wireless service for the Australian Mercantile Marine.

Mr. McKay was with A.W.A. for the remainder of his life, serving throughout the war, and in many vessels later. A month ago he returned from 4 years' sojourn in the Gilbert Islands, where he represented A.W.A. on *On Chong* and *Co's* steamer *Macquarie*. Many of Mr. McKay's old comrades attended the funeral, including Messrs. W. H. C. Phillips (representing Mr. E. T. Fisk, J. Heavey (president), and W. Stevenson (honorary secretary, Professional Radio Employees' Institute); A. R. Catford, E. Giles, V. E. Stanley (Pennant Hills Radio); J. Blemings, H. Buik, H. S. Chown, F. C. Davies, H. Johnston, R. Jones, W. Jones, F. Logan, S. W. Le Grand, A. E. Macaulay, G. Mumford, J. Pow, S. Riley, R. J. Ritchie, W. Shacklock, H. Self, M. B. Todd, E. Toope, A. F. Vipan. Mrs. Swanson, a friend of Mr. McKay from childhood, also attended. Mr. McKay leaves no relative in Australia, all his people being in Scotland and New Zealand.

MR. M. MORTIMER'S SON.

All old friends in the service (at the various coastal stations and elsewhere) of Mr. M. Mortimer, C.R.O., Sydney, will learn with regret of the death of his son Mark, aged 7 years. The boy, who was in hospital and was shortly to have undergone an operation died suddenly in his sleep on June 21.

MR. W. MacSKIMMING PASSES AWAY.

It was with profound regret that the older members of the Works' staff learned of the death in February of Mr. Wallace MacSkimming, lecturer in optics at Sydney Technical College, in his 58th year.

Mr. MacSkimming joined A.W.A. in 1919 as a scientific instrument-maker; and subsequently was given charge of the Company's early valve manufacturing department. He resigned in 1928 to take up the position he occupied at the Technical College until his death.

To those of us who had been associated with him, "Mac's" passing meant the loss not only of a genial friend; but more essentially of a man whom it was a privilege to know.

His personality was a rare combination of many fine characteristics. His consistent good humour and optimism, his deep understanding of human frailties, his tolerance and absolute lack of arrogance with subordinates, his capacity for imparting his own spirit of good cheer and fine sense of loyalty into those with whom he came into contact—these qualities made us regard "Mac" as a friend to be desired.

His particularly able mind empowered him to obtain that extra degree of accuracy, and his cunning hands had that subtle touch which distinguished his work from the commonplace. It was this qualification which brought Mr. MacSkimming into close contact with the late Dr. Pigot, of Riverview Observatory, and he was entrusted with the delicate adjustments and repairs to the seismograph, as well as other intricate scientific instruments.

To those who worked under him he was more than just a superior officer; he was an inspiration in the conduct of their own lives, for his tastes were simple, his outlook broad; and with all he had a definite understanding of honour and loyalty—a trait which took him overseas with the A.I.F. during the war; but, although he had been a soldier, "Mac" fought life's battles with a smile.

Thus we knew him. Thus we shall remember him. A man worthy of the knowing; a man worthy of remembrance.—L.R.

WIRELESS EQUIPMENT

PILOT STEAMERS AND DREDGES.

The Public Works Department has accepted the tender of Amalgamated Wireless for the equipping of two pilot steamers and five bar dredges with wireless. The pilot steamers are the "Captain Cook," stationed at Sydney, and the "Birubi," stationed at Newcastle. The dredges are the "Hermes" and "Jupiter" (Northern Rivers), "Antleon" (Port Macquarie), "Latona" (Bateman's Bay) and "Neptune" (Newcastle).

A.W.A. is fitting these seven ships with the standard wireless telegraph equipment specially designed for small ships, including a device for transmitting automatically the distress call even if there is no one on board who understands the Morse code.

THE TROCADERO, SYDNEY

DANCE PALAIS' ACOUSTICS.

The scientific subject of acoustics has found very practical application at the new Trocadero dance palais in George Street, Sydney, by the introduction of a system of sound reinforcement re-ordinated with correct acoustical design of the building in contradistinction to the older method of straight-out amplification by means of loud-speakers and nothing further. Dance halls with poor acoustical properties and abounding in echoes are sufficiently numerous, and in order that these bad characteristics might be avoided, the architects (Messrs. Robertson and Marks), when planning the building, secured the co-operation of the research engineers of Amalgamated Wireless, who specialise in sound and acoustical problems. The result was a planned treatment of the ceilings and the walls and an arrangement of amplifying equipment with specially designed high-fidelity loud-speakers which will provide a clear, even and ample volume of music to all parts of the spacious dance hall. The orchestra will thus be heard with equal loudness all over the floor, echoes and dead spots being entirely nullified.

A two weeks' holiday gives a man a chance to train his eyes. Our eyes grow dull when we see the same things every day.

Better take a notebook on your holiday trip and jot down what you notice for "The Radiogram".



AURAL RADIO RANGE BEACON.

In addition to its function as an Aural Radio Range Beacon, the Transmitter may also be used for sending messages by wireless telephony or wireless telegraphy, such as weather reports and other information of importance to the pilots.

BRAYBROOK RADIO CENTRE.

Mr. Pringle has recently returned from leave which was spent at Phillip Island. He had a very enjoyable time, and is looking forward to another visit there in the near future.

Mr. Forrest spent part of his leave in Sydney, renewing old time friendships there, and he was particularly impressed with the developments at the Works and Pennant Hills.

Mr. Mathieson toured around Victoria shooting and fishing during the period of his leave, and is looking particularly well since he returned.

Mr. James spent his leave at Lorne, and reports that this popular resort was as good as usual.

Mr. Betts has been transferred to the Essendon D.F. Station, and is busy looking after the maintenance side of the air-plane service.

Mr. Windsor, ex-Marine Department, has started at Braybrook, and is very pleased to receive his chance on the technical side.

Messrs. Pringle and Forrest represented Braybrook at a dinner given as a send off to Mr. Bearup, who is leaving on a tour on behalf of the A.B.C., and also took part in a dinner given to Mr. Hosking by the Melbourne Staff on the eve of his departure to South Africa.

THE NEW POETRY?

One of our staff members has been affected by the modern spirit in poetry and writes of Spring thus:—

Er—Spring!
 You perfectly priceless old thing!
 I'm frightfully bucked at the signs that one sees;
 The jolly old sap in the topping trees;
 The priceless old roses, and that sort of rot;
 It jolly well cheers up a chap, does it not?
 It's so fearfully bright,
 So amazingly right,
 And one feels as one feels when one gets rather tight.
 There's a tang in the air,
 If you know what I mean,
 And the grass, as it were,
 Is so frightfully green,
 We shall soon have the jolly old bee on the wing—
 Er—Spring!

MR. A. P. HOSKING.

Mr. A. P. Hosking, Sales Manager of the A.W. Valve Company and retiring chairman of the Australian Valve Merchants' Association, was entertained at luncheon by members of the A.V.M.A. prior to his departure on a six months' tour abroad and presented with a wardrobe cabin trunk. Mr. Hosking afterwards left for Capetown, where members of his family will re-assemble after a separation of 30 years.

AMBULANCE RADIO

SUCCESSFUL TESTS

After several months of experimenting Mr. H. J. Mitchell, Superintendent-Secretary of the Central District Ambulance, Sydney, with the co-operation of A.W.A., has succeeded in obtaining highly satisfactory results in the exchange of radio communications between Sydney and one of the fastest of the ambulance waggons in motion on the road.

Recently the ambulance waggon, equipped with a specially designed installation, travelled at 50 miles an hour from the city to the Blue Mountains. Two-way communication by word of mouth was maintained until the ambulance vehicle reached Lapstone Hill. Then the radio equipment was switched over to the Morse code and messages were exchanged by telegraphy until the car reached Medlow Bath, 70 miles from Sydney. The wireless officer at the Sydney end was located at the A.W.A. receiving station, La Perouse, from where, by remote control, he operated a reciprocal transmitter at Radio Centre, Pennant Hills. The exchange of signals was so satisfactory that all parties were confident that communication could have been maintained at least as far as Bathurst, but at Medlow Bath the tests had to be discontinued owing to the lateness of the hour.

Mr. Mitchell is enthusiastic about the value of wireless as an adjunct to ambulance work. Even during recent tests, on several occasions, an ambulance at a distance from the city was recalled by wireless, and on other occasions instructions were given by radio to officers to proceed to a particular place.

“CASTLES IN THE AIR.”

No one should ever sneer at a young man because he is ambitious—because he builds “castles in the air”.

Perhaps, who knows, the young man may be able to put solid foundations under his castles. He may be able to make his dream come true.

As Emerson once said, it is far better to build castles in the air than Dungeons in the air, as so many discouraged, grumbling people do.—*Efficiency Magazine.*

SYDNEY RADIO CENTRE

PENNANT HILLS.

Mr. E. T. Prentice has returned from annual leave and reports that the Manly surf is very warm, despite the season.

Mr. A. F. Bardin is at present on annual leave, but may be heard on the air any night. Busman's holiday?

Mr. J. Doggett is still in the distant islands, but hopes to be with us again in the near future, as the change-over to the new site at Rabaul is nearly completed.

Mr. A. R. Catford reports favourably on the far North Coast as a holiday resort.

Mr. J. K. Twycross, of Rabaul, gave us a "look in" for a few minutes the other day. If appearances go for anything, he has not much "recuperating" to do, and nine months to do it in. "Lucky dorg."

Mr. G. J. Flynn has also been holidaying in the North and confirms Mr. Catford's report re good places.

Mr. H. Groom, of the Marine Department, has been transferred to Pennant Hills, and relieves Mr. T. Redfern, who has taken up duties in the Internal Audit Department at Head Office.

Two of the Coastal Radio short-wave transmitters here have been substantially increased in power. The 23/24 metre transmitter now has an input of 6 k.w. and the 34/35 metre transmitter has 12 k.w. input. The latter uses two water cooled valves in the final amplifier. And the former uses 4 of the new Marconi MT.13 valves.

Interesting tests with side-band telegraphy are to take place in a few weeks' time, when the gear is constructed. It is then hoped to work two circuits simultaneously using the same transmitter.

ACCOUNTANCY EXAMS.

Further results just to hand include:—

Mr. Sydney Field (C.R.S., Head Office): Intermediate—Accounts 1 and 2 and Auditing. Federal Institute of Accountants.

Mr. C. O'Donnell (Beam A/cs., Head Office): Intermediate—Auditing. Federal Institute of Accountants.

Mr. H. W. Jones (Internal Audit Department): Company and Bankruptcy Law—Commonwealth Institute.

BROOME RADIO

Our Broome correspondent writes:—

We recently welcomed to the Coastal Radio Service, Mr. Harry Rumble, who was transferred from the Marine Department. Mrs. Rumble has now arrived to take up the varied life of the tropics.

Cecil ("Curly") Williams, also an ex-Marine man, is now a fully-fledged coastal radio enthusiast, and has built an all-wave receiver.

Mrs. Hutchinson rejoined her husband, who is on an extended term here, leaving daughter Yvonne at school in Fremantle. The parting from their children for schooling is one of the trials bravely faced by the wives of the C.R.S. staff. Most of those with families have to send their children to the city schools.

We are all pleased that Mrs. Grant is with us still, and trust she will stay until her popular husband's term is completed.

Living in a pretty little cottage off the Continental, where meals are partaken, Mrs. Grant has apparently solved the eternal and worrying domestic help problem. With hanging ferns, potplants and shell-gathering as hobbies, a run with a few friends in their spic-and-span two-seater, or a game of croquet on the Continental Lawn, for pleasure, and a kindly welcome for all, she makes the most of every opportunity to enjoy life.

The only "grass widower," (of which there are over twenty in Broome) on the staff is Mr. E. H. Smellie. Mrs. Smellie, after placing Barbara at the Church of England Girls' School, Caulfield, Victoria, is staying at Gooseberry Hill, some twelve miles from Perth, where, with Peter and Donald, she is living with her mother. Her many friends in Broome are looking forward to her early return.

COCKATOO ISLAND.

The re-occupying of Cockatoo Island, after an absence of five years, by the Australian Iron and Steel Co. provided an interesting break in the usual routine for the VIO staff. The T.C.3 transmitter complete with its 6 h.p. Buzacott engine, was set up and tested, then sent out and re-erected on Cockatoo Island. This set is worked by the representative of the A.I. & S. Co. on the island and a fair volume of traffic is occasionally passed over the circuit, using telephony in both directions. To save running the Fordson for this work, experiments were made with

type "R" and results warranted our assembling a modulator which is surprisingly efficient. This allows the use of the telephone on all waves, though only 600 and 667 are used with Cockatoo Island for the present. Their daily routine of a conversation with us is highly prized by the Cockatoo Island officials—and also by their wives, especially when medical advice is urgently sought and supplied. Koolan Island, some ten miles from Cockatoo, is being worked by Brasserts Ltd., of England, who have plans for sending 300 men to take out the iron ore for sale to Japan. Preliminary work is being carried out by 40 men there now. These islands and many others rich in ore form Yampi Sound and are a little to the north of Derby.

The entrance to Derby is through the hazardous passages of King George Sound, where the sweep of the tides are encountered. A 35-foot rise and fall and winding passages for many miles makes Derby an unattractive port and the extra distance to Broome, where the wide entrance to Roebuck Bay makes an easy passage, is more often availed of.

At Yampi the mainland cliffs rise out of deep water and it is possible that a township there will soon supersede Derby as the port for the Kimberleys.

The many ex-Broome members of A.W.A. may be interested to know that the peak period of 300 pearling luggers with 5 pearl buyers contending for £300,000 worth of pearls has dwindled to 55 boats and no buyers attending for the last three years. There being no other industry in the district, Government assistance has been necessary to keep the fleet afloat and Broome on the map. However, the big "blows" of the last two years have uncovered beds of shell, and good "takes" are looked for. Engines have been re-installed in the luggers and fittings for as many as three divers being below at the same time are now used.

This increases the risk as it needs about 14 tons of shell at, say, £135 per ton to cover expenses for each boat.

Hopes of rising prices and a return to better times are just as high as ever and those engaged are to be commended for staying in the game, despite poor returns, thus maintaining for Australia a much valued outpost on her long coastline.



The "catch."



The extremely difficult path leading to the wireless station made the use of a "Flying Fox" a practical necessity. Portion of apparatus being transported.



Unloading provisions and wireless equipment on Cockatoo Island from the schooner "Geraldton," anchored in Yampi Sound.



How certain visitors call.



The wireless station showing the operating building and the power house in the foreground. To the right is a sheer drop to the waters of Yampi Sound.

BROOME RADIO STATION

TWELVE MONTHS LONELINESS ON WILLIS ISLAND

After twelve months spent on Willis Island, with only a dog as company, Messrs. A. W. Hooper and W. L. Boyd recently returned to Sydney.

Willis Island is a mere sand spit, 300 miles off the coast of Queensland. It was established solely for the purpose of conveying weather warnings by radio to the mainland, as the island is on the edge of the Coral Sea where cyclones originate. On innumerable occasions advices from the Island have afforded several hours' warning to ship masters and to residents of coastal towns, enabling them to take precautions against an impending gale.

Messrs. Hooper and Boyd found life on the Island quite agreeable. In the past the wireless operators have spent the whole period of 12 months without seeing even a ship, but lately the Burns, Philp liner "Malaita" has passed that way once in six weeks and the ship's company have made every effort to provide the men with fresh meat, vegetables, newspapers and letters. These articles are packed in a tin and thrown into the sea. The islanders row out in a canoe and on about half the trips they succeeded in securing the floating package, at other times being unable to pick up the tin which was carried away by adverse currents.

During the last few months, the utility of Willis Island has been increased by the Commonwealth Weather Bureau using the wireless information for the preparation of weather reports for aircraft, flying on the main trans-continental routes of Australia.

Messrs. Hooper and Boyd remarked that Willis Island teemed with birds and marine life. The island at times was almost covered with terns and mutton birds and the ground was so thick with nests and holes that they had to use care in walking. Thousands of turtles came ashore, dug holes in the sand and laid 80 or 100 eggs, each. In course of time the young turtles would emerge and march to the sea like battalions of soldiers. Their progress was interrupted by birds which snapped them up in hundreds and immediately they entered the water many more were swallowed by sharks and other large fish.

Willis Island has a particularly redeeming feature. In the absence of picture shows, churches, shops, racecourses and other amenities of normal life money has no meaning there and when the operators return to civilisation the income of a whole year awaits collection.

THE KING'S SPEECH

THE COUNTRY: Australia.

THE PLACE: A.W.A. Broadcast Studios, Melbourne.

THE TIME: Nearly midnight—Monday night, March 2.

"How's everything, Bert?"

"O.K., Tom—all circuits checked both in and out."

"How many circuits have we on?"

"Quite a few—the incoming from our Receiving Centre at Rockbank, three out—one to 3DB, another to 3AW, and the third to the recording studios at Featuradio, besides the monitor circuits."

"Anything in yet?"

"I'll ask Rockbank now." . . .

So it went on for a while—Rockbank giving us London broadcasts for lining up purposes, and later we ask Rockbank to give us diversity reception, and up goes the signal strength to R. Max. Long before his Majesty King Edward the Eighth had left Buckingham Palace for the B.B.C. Studios, we were ready for the rebroadcast and recording of the first broadcast of His Majesty.

As the clock hands slowly moved to 2 a.m., the monitor lines to the rebroadcasting stations gave progress reports that reception was perfect, and they could promise their listeners a real broadcasting thrill.

It's almost 2 a.m.—Recording Studio standing by—all waiting for the cue (Bow Bells chiming) from the B.B.C.—with the monitor line to the Recording Studio open—seconds to go! "Cut!" and now the King is talking to his millions of subjects throughout the world. Ten minutes slip by, and then it's over. The Recording Studio reports results perfect—rebroadcast stations report the same.

We thank our Reception Point—Rockbank—for their fine work. But are we finished? Oh, no! Circuits closed, we now proceed to the Recording Studio, listen to the play back of the master recording and promptly order several copies—delivery within three hours.

Before 6 a.m. a sleepy-eyed individual presented to the management of each Commercial Broadcast Station in Melbourne the recorded speech of His Majesty. Further copies were parcelled up and sent by first train to points more than 100 miles from Melbourne.

MR. LINCOLN ELLSWORTH ON N.B.C.

FROM MELBOURNE STUDIOS.

Further broadcasting history was made on the morning of 19th February, 1936, when Mr. Lincoln Ellsworth, the Antarctic explorer, made a broadcast from the Broadcasting Studios of A.W.A., Queen Street, Melbourne.

Almost the whole world was linked up on this occasion. From Melbourne, we were connected, via the A.W.A. Overseas Telephone Circuit, to London—from there to New York, and on to the N.B.C. network. A few minutes before the broadcast commenced, we chatted with the control operator at New York, and then all was ready.

Mr. Lincoln Ellsworth was rather nervous before the actual broadcast, but in his delightfully pleasant voice he proceeded to describe to his American listeners the discoveries made by Hallock Kenyon and himself on their flight from Weddell Sea to the Bay of Whales, and how they landed three times on their Polar flight across Antarctica. Also how they were forced down through shortage of gasoline, 16 miles from Little America; and of their disappointment that Ellsworth's ship, the "Wyatt Earp" did not reach the Bay of Whales before the "Discovery," which reached them three days before the first mentioned vessel.

Mr. Lincoln Ellsworth was pleased with all the broadcast arrangements and was particularly delighted to receive a message from the N.B.C., thanking him for his excellent broadcast.

An interesting feature of this broadcast was that the Recording Studios were in circuit with broadcast circuits, and a recording of Mr. Ellsworth's broadcast was made. This record was subsequently presented to Mr. Ellsworth by Mr. Hooke.

Thus another broadcasting achievement was added to A.W.A.'s outstanding record!

When the people of Victoria awoke that morning and tuned in their favourite station. . . . "We now present to you with the compliments of A.W.A., the speech of His Majesty King Edward the Eighth, as broadcast from London this morning, and intercepted by A.W.A...."

WORLD-WIDE BROADCAST

CO-OPERATION WITH U.S.A.

The broadcast on July 8 by young Kelvin Rodgers, of Victoria, who is now convalescing in Philadelphia from the operation whereby a nail was removed from his lung, was very successful. Kelvin and his mother spoke to Mr. Rodgers from the studio of the American Station, KYW, through the American shortwave station W2XAF.

Kelvin's father spoke from the studio of station 3LO in Melbourne, and the Australian shortwave transmission was effected through the Amalgamated Wireless world range short-wave experimental station VK2ME at Sydney. According to the American announcer, the things that interested Kelvin most were the microphone and a bunch of keys. Mr. and Mrs. Rodgers carried on a conversation for some time.

The conversation at both the American and Australian ends was rebroadcast by the national stations and by 2CH, Sydney, and 3DB, Melbourne.

The arrangements were effected by the collaboration of A.W.A., the National Broadcasting Company of America, the Australian Broadcasting Commission and the Postmaster-General's Department.

The fact of a small boy in Philadelphia, U.S.A., and his father in Melbourne holding a conversation by wireless telephone, which was broadcast throughout Australia and the United States, illustrates the facilities available for concentrating the attention of many millions of persons in an oversea country upon Australia.

Little Kelvin Rodgers would hardly realise, as he sat on the knee of an announcer in an American broadcasting studio, the magnitude of the demonstration in which he was taking part. His baby words to his father when he realised that it was indeed "Daddy" at the end of the 10,000 mile circuit, not only aroused the human interest of hundreds of thousands of Australians but went out to perhaps millions in the United States.

The facilities provided by A.W.A. for a two-way broadcast of this nature place Australia in the line of achievement with the most advanced countries of the world. The incident is an indication that whenever the occasion arises for international co-operation in broadcasting, however widely separated the countries may be, Australia can do her share to make the occasion a success.

COURTEOUS LIFT DRIVER

MR. F. A. FOORD.

When you step into the A.W.A. lift at Head Office the driver enquires in accents courteous and bland how far you wish to travel; when you step out of the lift he thanks you for the privilege of your company. Such treatment of the Company's clients is as it ought to be. In many lifts the treatment of clients is far different.



Mr. Foord is a man with a history. He joined the Buffs, a well-known English Regiment in 1915, and was later attached to a tunnelling corps in the Royal Engineers and helped lay the wire that blew up the first mine on the Vermelles front, Loos Sector, in 1916. He also took part in the second battle of the Somme. It was in the big attack at Thiepval, as lance-corporal, that he won his Military Medal.

After the Armistice Mr. Foord returned to England and joined the Royal Irish Constabulary. He came to Australia in 1922, and in 1925 joined A.W.A. He is married and has four children.

300 MILES BY PUSH BIKE

By Mr. B. C. Button

(H/O. Purchase Department).

I decided to spend Easter touring by push bike with a male friend.

We departed full of glee. From Penrith to Katoomba is roughly thirty-two miles and all uphill. We crawled into Katoomba and, although we were to cook our own meals by the wayside, we were soon in the nearest restaurant.

From Katoomba to Mount Victoria was easy going, but it was beginning to get darned cold, and as Little Hartley was our first day's destination, we hurried on. Tired but high spirited, we camped by a stream at Little Hartley, and within thirty minutes we had on our plates a collection of fried eggs, potatoes, sausages, bacon, twigs and leaves.

At 8.30 a.m. we were on the road for Jenolan Caves. The first part of the journey was a gradual climb, until we were eventually rewarded with a wonderful scenic view overlooking the Hartley Valley. We reached the summit and at 12.30 p.m. started on the six miles downhill ride to the Caves. Beautiful, rugged scenery, but to any who may make the trip by cycle or car, focus your attention on the road unless you want a short trip to eternity.

We reached the Caves, dined well, and left at 2.30 p.m. The next three miles was all uphill. We rested at the top, feeling very weary, then cycled on another two miles and turned left into a bush track towards Ginkin. What a track! Rocks, logs, deep cart ruts, but level going and pretty scenery. Arriving at Ginkin we turned right, and—I almost met my Waterloo! What appeared to be a shallow pool of water across the road turned out to be about three and a half feet deep in the middle. I rode right into it, fell over, and floundered about. Blankets and provisions were well and truly wet, and so was I.

With nightfall approaching and the air getting cooler, we made a sudden change of plans and made for Oberon. After a couple of spills in the dark we arrived there at 7.15 p.m. freezing and starving. We secured lodgings, and consumed the major portion of two sheep.

On Sunday we left on the return journey. On the way back to Mount Victoria my friend lost a part of his cycle, and we were forced to entrain there for Sydney.

A.W.A. STATIONS

BEAM STATIONS.

FISKVILLE—H. A. de DASSEL. (Acting.)

ROCKBANK—G. CHILTON.

CENTRAL RADIO OFFICES.

MELBOURNE—J. J. W. LAMB (Supt.).

SYDNEY—M. MORTIMER (Supt.)

MARINE DEPARTMENT.

SYDNEY—G. WILLIAMS.

MELBOURNE—H. M. LAMB.

BROADCASTING STATIONS.

SYDNEY—2CH. V. M. BROOKER.
ALBURY—J. DOWER.

CAIRNS—F. M. BASDEN.
BENDIGO—J. P. BANNEY.

TOWNSVILLE—H. E. COX.
PORT MORESBY—K. T. FRANK.

VPD SHORTWAVE STATION, SUVA—F. C. EXON.

COASTAL RADIO SERVICE.

ADELAIDE RADIO —

Officer in Charge: STOYLE, J. B.
Radio/tel.: TYMMS, R. W.
" KEMPLING, A. G.
" FARNSWORTH, L. C.
" COLDWELL, E. W.

BRISBANE RADIO—

Officer in Charge: MULLIGAN, F. C.
Radio/tel.: KYLE, H. J. M.
" WARD, J.
" FLOOD, A. G.
" SMITH, G. H.
" HOWLETT, A. M.

BROOME RADIO—

Officer in Charge: SMELLIE, E. H.
Radio/tel.: HUTCHINSON, C. E.
" GRANT, J. A.
" WILLIAMS, C.
" RUMBLE, H. W. M.

COOKTOWN RADIO—

Officer in Charge: PHILLIPS, G. G.
Radio/tel.: INGLIS, R. J.
" WEST, C. R.

DARWIN RADIO—

Officer in Charge: LUSCOMBE, L.
Radio/tel.: O'HARE, G. P.
" SHINGLETON, A.
" HARDY, J. J.
" CURNOCK, L.

ESPERANCE RADIO—

Officer in Charge: BRIDGES, F. J. C.
Radio/tel.: OUVRIER, F.
" CHAMBERS, W. S.

FLINDERS ISLAND RADIO—

Officer in Charge: HOLLOWAY, W. H.

GERALDTON RADIO—

Officer in Charge: CHRISTMAS, F. H.
Radio/tel.: WOLFE, H. B.
" ANDERSON, R. C.

HOBART RADIO—

Officer in Charge: WEEKS, M. L.
Radio/tel.: HOWE, J. J.
" MacGOUN, M. A.

KING ISLAND RADIO—

Officer in Charge: TERNES, L. E.

LORD HOWE ISLAND RADIO—

Officer in Charge: FENTON, S.

MELBOURNE RADIO—

Radio/tel.: REYNOLDS, G. D.
" HUTCHINSON, J. E.
" HODGES, W. C. H.

PORT MORESBY RADIO—

Officer in Charge: FRANK, K. T.
Radio/tel.: SEARLE, C. E.

PERTH RADIO—

Officer in Charge: CHAPMAN, W. G.
Radio/tel.: LEMMON, C. E.
" GORNALL, J.
" ALLINSON, J. R.
" WALLACE, C.
" AMBLER, S. C.
" IZETT, E. C.
" CLIFFORD, J. R.
Radio Technician: DAWES, F. L.
" BULLEN, J. P.
Labourer: MacLEAN, R. W.

ROCKHAMPTON RADIO—

Officer in Charge: LEVERETT, J. H.
Radio/tel.: ROBERTSON, M. L.
" RIPPINGALE, V. B.

SAMARAI RADIO—

Officer in Charge: KENNEDY, J. R.

SYDNEY RADIO (La Perouse)—

Officer in Charge: BROWN, P. W.
Radio/tel.: STANFIELD, C. H.
" ELMORE, J.
" GOWLETT, F.
Technician: HEAVEY, J.
" PEELL, J.
" BAILEY, R. W.
" MARSDEN, F.
Radio/tel.: O'DONNELL, E. J.
" DALE, C. F.
" FLEMING, D. B. L.
" CHRISTIE, J. F.
" HAMILTON, S.
Labourer: OLSEN, L.
" BROGAN, R.

SYDNEY CENTRAL RADIO OFFICE—

Radio/tel.: TODD, M. B.
" PARK, J.
" PLOWMAN, A. F.
" SCOTT, F. L.
" SHEPPHERD, A.
" STICPWICH, H. A.
" WASHBOURNE, W.

TOWNSVILLE RADIO—

Officer in Charge: COX, A. G.
Radio/tel.: BETTISON, R. O.
" CUSACK, L. C.
" PONSONBY, J. B.
" BARNFIELD, H. W.

THURSDAY ISLAND RADIO—

Officer in Charge: WALTERS, G. W.
Radio/tel.: PUSEY, N. D.
" OATES, H. E.
" SCOTT, G. J.
" BURKE, A. H.

WYNDHAM RADIO—

Officer in Charge: COLEY, C. L. J.

WILLIS ISLAND RADIO—

Officer in Charge: EDWARDS, H. J.
Radio/tel.: OLIVER, A.

C/o. SUPERINTENDENT, C.R.S.—

SAGE, A. T.
FONTAINE, L. A.

TRANSMITTING CENTRE, PENNANT HILLS—

Engineer in Charge: STANLEY, V. E.
Technician: BALE, G. F. O.
" BARDIN, A. F.
" CATFORD, A. R.
" GLENNIE, J.
" HOUSEMAN, A.
" FLYNN, G. J.
" KERR, A. A.
" MACAULEY, A. E.
" GROOM, H. P.
" PRENTICE, E. T.
" SIM, W. V.
Rigger: ROBINSON, W.
Labourer: MAHER, J. L.
Mechanic: WRIGHT, S.

RADIO CENTRE, BRAYBROOK, VIC.—

Engineer in Charge: PRINGLE, A. Y.
" JAMES, E. J. W.
" MATHIESON, I. H.
" FORREST, F. G.
" WINDSOR, E. W.

ESSENDON AERADIO, MELBOURNE, VICTORIA—

Technician: BETTS, E. G.
Radio/tel.: HART, A. S.

RADIO TELEGRAPHISTS' MOVEMENTS

COASTAL RADIO SERVICE

- | | | | |
|--|--|-------------------------------------|--|
| Mr. E. J. O'Donnell,
Radio Centre,
La Perouse. | Ted has been on the sick list for several weeks suffering from malaria and appendicitis. He underwent an operation at the Coast Hospital, and is now well on the road to recovery. | Mr. F. C. Mulligan | Mr. Mulligan has been transferred from V.I.A. to V.I.B., relieving Mr. Cox. |
| Mr. Lou Curnock,
Darwin. | Lou had the misfortune to fracture his arm when his "lizzy" backfired, putting him out of action for a few weeks. | Mr. J. B. Stoyle | Mr. Stoyle has taken up duty at V.I.A., relieving Mr. Mulligan. |
| E. W. Coldwell,
Adelaide. | Congratulations to Ernie, who recently became the proud father of twin boys. | Mr. W. Holloway
Flinders Island. | Bill recently resumed duty after completing six months' long service furlough. |
| Mr. G. J. Scott,
Melbourne. | George has been transferred to V.I.I. | Mr. E. C. Izett | Resumed duty at Perth Radio in April, after spending his recreation leave in New Zealand. |
| Mr. J. D. Olle | Returned from Fiji early in January and relieved Mr. Fenton at Lord Howe Island for three months. John also married prior to his departure for Lord Howe, where the honeymoon was spent. | Mr. A. W. Hooper
Mr. W. L. Boyd | Returned to Sydney in May, after 12 months' service at Willis Island. |
| Mr. L. A. Fontaine,
Thursday Island. | Left V.I.I. in June on transfer to Melbourne Radio, and intends spending portion of his leave touring North Queensland. | Mr. H. J. Edwards
Mr. A. Oliver | Ex-Marine Department—taken up duties at Willis Island. |
| Mr. G. G. Phillips,
Cooktown. | Gordon recently paid a flying visit to Sydney, on recreation leave, but was in a hurry to get back to his peanut farm at Cooktown. | Mr. A. M. Howlett | Resumed duty at V.I.B. at the end of May on completion of six months' long service furlough. |
| Mr. G. Walters, | Gerry also visited Head Office recently, and looks extremely well. He left V.I.T. on transfer to V.I.I. at the end of May. | Mr. A. Flood | Has taken up duty again at V.I.B. in June on completion of long service furlough. |
| Mr. A. G. Cox | Mr. Cox has been transferred from V.I.B., to V.I.T. vice G. Walters. | Mr. R. C. Anderson | Transferred from Perth to Geraldton Radio, in March last. |
| | | Mr. C. O. Wallace | Transferred from Geraldton to Perth Radio in March last. |
| | | Mr. H. W. Rumble | Ex-Marine Department, has been transferred to Broome Radio. |
| | | Mr. A. H. Burke | Ex-Marine Department, has been transferred to Thursday Island Radio. |

ISLAND RADIO SERVICE

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|--|---|--------------------------------------|---|
| Mr. J. K. Twycross,
Radio Inspector,
Rabaul Radio. | Recently arrived in Sydney on eight months' leave and, after spending a holiday at the Blue Mountains, will pay a visit to Western Australia. | Mr. H. D. Holland,
Kavieng Radio. | At present on nine months' leave in Australia. |
| Mr. E. F. Bishton,
Rabaul Radio. | Resumed duty at Rabaul on June 1, on completion of ten months' leave in Australia. | Mr. T. W. Thomson,
Rabaul Radio. | Resumed duty at Rabaul after spending ten months' holiday in Australia. |
| Mr. D. W. McMillan,
Manus Radio. | Returned to New Guinea during May on completion of nine months' leave. He is at present stationed at Manus. | W. R. B. Thomas, | At present on ten months' leave in Australia. |
| | | Mr. C. M. Urquhart, | Back at Kieta after four months' leave spent in the Far East and Australia. |
| | | Mr. J. Widdup. | At present on eight months' leave in Australia. |

RABAUL—

Radio Inspector: TWYXCROSS, J. K.
 Officer in Charge: ALLAN, J. T.
 Radio/tel.: COLEMAN, L. C. A.
 " TRACY, F. J.
 " BASSETT, J.
 " STURGEON, C. H.
 Mechanic: McGUIGAN, H. O.
 Radio/tel.: ALEXANDER, —
 " THOMSON, T. W.
 " BISHTON, E.
 " DOHERTY, H. F.
 Technician: DOGGETT, J.

PACIFIC ISLANDS RADIO SERVICE

MANUS—
 Officer in Charge: McMILLAN, D. W.

MADANG—
 Officer in Charge: BURGESS, H. S.

KIETA—
 Officer in Charge: URQUHART, C. M.

KAVIENG—
 Officer in Charge: MINOGUE, K.

WEWAK—
 Officer in Charge: BOTO, J.

SALAMOA—
 Officer in Charge: REED, G. H. W.

WAU—
 Officer in Charge: BECKETT, C. C.
 Radio/tel.: SEXTON, T. O.

C/o. SUPERINTENDENT, C.R.S.—
 Radio/tel.: WIDDUP, J.
 " THOMAS, W. R. B.
 " HOLLAND, H. D.
 " COLQUHOUN, T. K.

SUVA—

Superintendent: EXON, F. C.

FIJI RADIO SERVICE

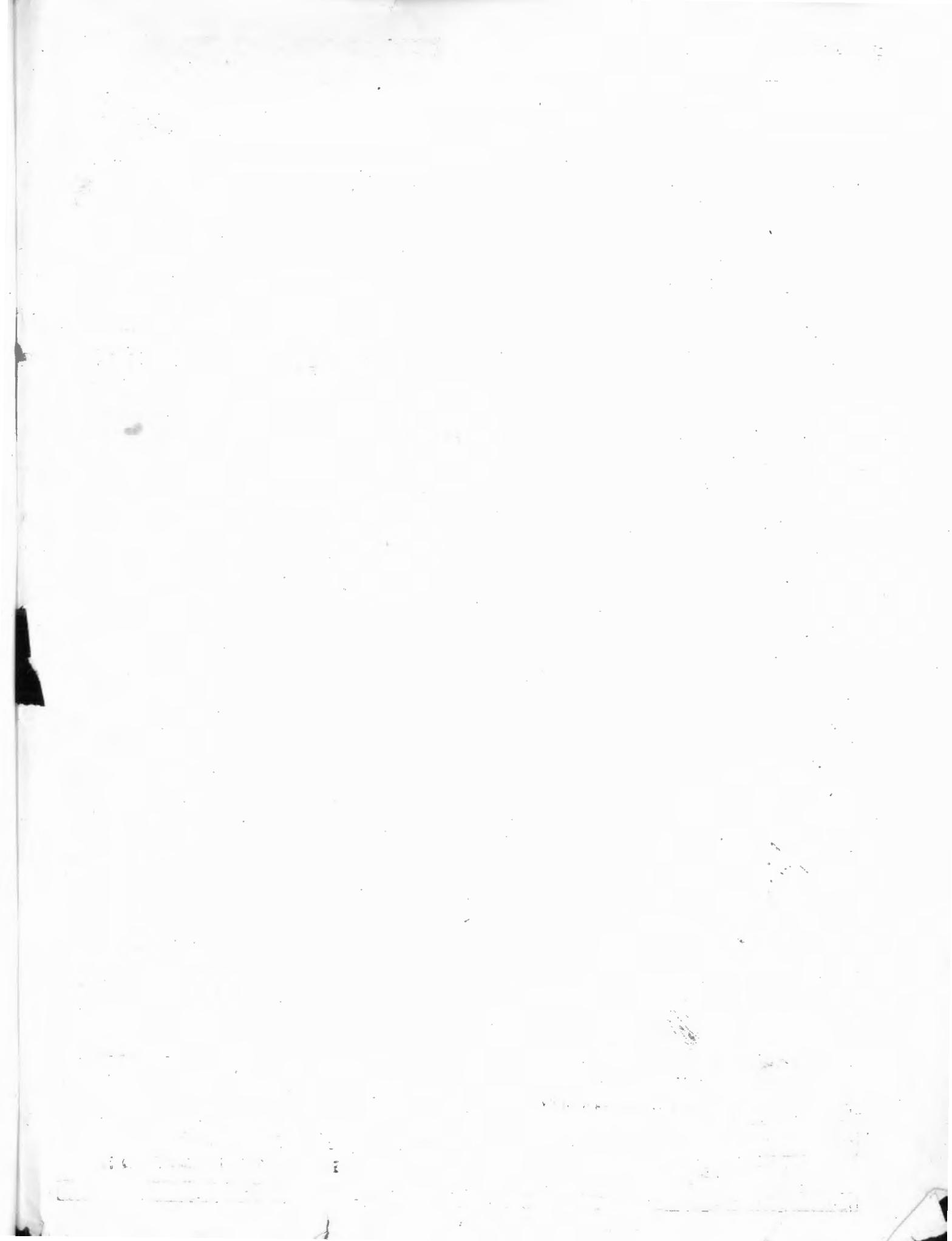
Senior Officer: KEARSLEY, W.
 " " ROFFEY, H.

Junior Officer: BROWNE, L. M.
 " " McCOLLUM, A. A.
 " " — RAGG, W. J.

Wireless Officers Attached to Ships of the Australasian Mercantile Marine

Aeon	F. Logan	Mangola	
Akuna	W. J. Croft	Manoora	M. G. Crockett
Aldinga	R. McNamara	Manunda	A. W. Shacklock
Allara	G. E. Davies	Mareeba	E. A. R. Meissner
Arkaba	L. G. Schmidt	Marella	L. A. Deleuil (Snr.) S. McTavish (Jnr.)
Aroona	C. A. Rowles	Marrawah	M. H. Savage
Ashridge	R. R. Mackenzie	Merkur	P. Whelan (Snr.) P. J. Quill (Jnr.)
Baralaba	P. Richardson	Mernoo	J. H. Pullan
Bingera	E. C. Delmar	Mildura	S. H. Gover
Burwah	R. J. Scott	Momba	A. B. Monks
Canberra	P. C. Gillon	Montoro	W. C. Lucas
Cardross	W. N. Cowie	Morinda	A. H. Gray
Carlisle	C. E. Watts	Mulcra	C. R. Matheson
Changte	E. C. Bouel (Snr.) P. C. Priestley (Jnr.)	Mundalla	R. A. Holt
Colac	D. Lynch	Mungana	A. C. Torrens
Coolana	F. N. Toohey	Murada	H. E. Dormer
Corio	A. E. Robertson	Nairana	A. L. Batten
Craigend	W. C. Berry	Nankin	H. A. Greer (Snr.) J. Leslie (Jnr.)
Dilga	K. L. Simpson	Nauru Chief	A. E. R. Fox
Dumosa	K. C. Parker	Nellore	A. W. Hooper (Snr.) A. Le Nevez (Jnr.)
Dundula	B. F. Hirst	Neptuna	N. F. Odgers (Snr.) A. K. McEntyre (Jnr.)
Duntroon	H. S. Taylor	Noora	G. A. Glanville
Echunga	W. D. Johnston	Oorama	S. V. Franks
Filaroo	H. J. Williams	Ormiston	L. K. Connor
Era	E. H. Pollard	Orungal	F. C. Davies
Goulburn	L. F. O'Donnell	Paua	H. W. Bacon
Iron Crown	E. Pollock	Period	W. A. P. Luke
Iron Knob	C. Britcher	Saros	A. V. Zoppi
Iron Master	F. N. Olsen	Taiping	R. S. Brook (Snr.) R. F. Chamberlain (Jnr.)
Iron Monarch	G. A. Phillips	Tanda	W. H. Harris (Snr.)
Iron Prince	D. A. Jones	Taroona	
Iron Warrior	A. J. Costa	Time	L. G. Palmer
Kangaroo	S. Kings	Triaster	S. M. Sandford
Kanimbla	C. E. Robison	Triona	E. I. Hyde
Karoola		Ulooloo	R. L. Beatty
Katoomba	J. K. Overbury	Victoria	
Kooliga	F. G. Lewis	Wanganella	D. Soraghan
Koolinda	R. C. Williams	Wear	H. R. Darling
Koomilya	G. H. Napper	Westralia	R. T. Murray
Koonda	W. E. Cridge	Willandra	E. J. Glaisher
Kooyong	D. Brooks	Wm. McArthur	S. Laurenson
Kowarra	J. Montgomerie	Wollongbar	W. L. Boyd
Kybra	R. G. Curedale	Yarra	F. W. Hewitt
Lady Isobel	R. T. Hamilton	Zealandia	H. F. Hartley
Lanena	J. H. Sim		
Lowana	K. W. Downey		
Lutana	J. A. Colwell		
Macdhui	J. E. Cleary		
Macedon	C. A. Hurndell		
Mackarra	E. W. Sievers		
Macumba	E. N. Gollan		
Malaita	C. Williamson		

10 DEC 1937



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621.38405

PSR RAD



Leaders



OF THE AUSTRALIAN
WIRELESS INDUSTRY

- Beam Wireless Service
- Wireless Telephone Service
- Wireless Service to Ships
- New Guinea Wireless Service
- Fiji Wireless Service
- Broadcasting Services
- Aircraft Wireless Services
- Picturegram Services
- Wireless Manufacture
- Wireless Research
- Broadcasting Stations
- The Fisk Radiola

AMALGAMATED WIRELESS
(AUSTRALASIA) LIMITED

~ AUSTRALIA'S NATIONAL WIRELESS ORGANISATION