A New Radio Thrill for New Zealand

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"WHAT a thrill this is, A.J." These words, spoken in a beautiful Wellington home, shortly after eight o'clock on Tuesday, November 25, and heard instantaneously in a Sydney residence by the writer, marked the opening of one of the first wireless telephone conversations across the Tasman. More than that, they convey the wonder of the achievement that science has now made possible—regular every day commercial telephone conversation between New Zealand and Australia, and, through the A.W.A. beam telephone service, even beyond her borders, with Great Britain, twenty-two countries of Europe, the United States, Canada and Cuba and Mexico. For that is the service that is now available to anyone in New Zealand, who has a telephone and necessary occasion for world-wide telephony. "What a thrill," indeed!

This service now brought to New Zealand has been available in Australia since April last, when the short-wave commercial telephone service was opened between Australia and Great Britain. The success of that service was so outstanding in its commercial utility that the New Zealand Postmaster-General, the late Sir Joseph Ward, immediately put in hand arrangements for the provision of a similar service with the Dominion.

Amazing Incidents.

WITH that blase acceptance of the unusual that is now forced upon humanity by the rapidity of scientific advancement, the feat of talking half round the world is now a commonplace of commerce. But the citation of a few incidents may show the scope and elasticity of the service. A Swiss farmer resident in Northern Queensland, 400 miles from Rockhampton, desired to speak to his family friends in Switzerland. He put in his call. Connection was established by land-line to Sydney, thence from the transmitting station at Pennant Hills direct to London. There land lines to the Continent were called upon, conversation established with Lausanne and two-way conversation carried on with perfect ease. Again, when the Malolo, the American luxury tourer, was in Sydney, her telephone system was connected up with the Sydney service and from their own cabin, two wealthy girls spoke to their home-circle in Atlantic City, their voices being carried across the Atlantic by the now fully-used Atlantic telephony channels between London and New York. In the recent political crisis affecting Australia, the Prime Minister, Mr. Scullin, absent in England, has been able to keep in touch with home developments from day to day by telephone. On one occasion the limited between Sydney and Melbourne was stopped at 2 o'clock in the morning to drag from his sleeper Mr. Fenton, the Acting Prime Minister, to speak from an isolated country station with his chief in London. These are some of the things that have been done and are being done day by day in the ordinary course of commerce. Wonderful, certainly, but just accepted in a day as part of the service due to humanity. Now our turn has come and New Zealand is linked with the world. Because of our past relative isolation the novelty will strike home the more and be the more keenly appreciated, but soon the novelty will pass and routine acceptance will take it place.

Of Men and Means.

STILL, while the novelty lasts, while we can still say "what a thrill" and respond to the joy of friendly voices across the Tasman, it will be interesting to chat about the men and means by which this work has been done. Writing here on the Maunganui on Saturday afternoon as she ploughs steadily back to New Zealand over a sunlit sea, the Morse is sparkling quietly in the wireless room outside, a fitting background to the radio picture I am endeavouring to piece together. I have been much with radio in the past month, and have taken every opportunity of visiting the radio centres and stations carrying out the splendid services inaugurated by Amalgamated Wireless (Australasia), Ltd. In Victoria, through the courtesy of Mr. J. L. Mulholland, I was motored to Ballan, 56 miles from Melbourne, to see the beam transmitting station working London and Montreal; to Rockbank, nearer the city, where the incoming messages are received; to Braybrook, where 3LO and numerous other broadcasting services are put on the air. In Sydney, by courtesy of the management and under the tutelage of a guide, who judiciously and capably combined hospitality with instruction, I saw the La Perouse receiving station, picturesquely overlooking Botany Bay, the factory at Ashfield, and finally, twenty-five miles apart from La Perouse, the transmitting centre of Pennant Hills.

Now for a little of the ways and means of this magic of wireless service. Looking back, the most vivid impression is how much is done with how little. Here is a service which is even now handling over half of all Press and commercial cable matter between Britain and Australia, and this is what happens. Into a small office in Collins Street, Melbourne, you drop your message for London. Checked and paid for, it is flashed by pneumatic tube to Wireless House, Queen Street. There an operator nonchalantly taps it out on a machine which punches Morse signals in a half-inch tape. That tape is fed immediately into a small machine about six inches long by four in diameter, and, presto, it is on its way at the rate of 1250 letters per minute—first by direct land-line to Ballan, thence automatically on the air to London. There it is automatically received and recorded in Morse outline on a quarter-inch ribbon. This ribbon, streaming forth from the receiver, can be interpreted either by an operator and the message hand-typed, or, most marvellous of all, it can be fed into another machine which converts the inscribed Morse into English and delivers the message actually typed on ribbon, leaving to human hands the task only of cutting and pasting that ribbon on to the delivery form for dispatch to the recipient. And all this is done at incredible speed—so quickly indeed that an average time from receipt of a message in Collins Street to delivery in complete form in London is about three minutes! This account shows how automatic the whole process is. One quiet little room in Queen Street, with a few operators; one impressive power-room at Ballan with a transmitting room attached; two huge sending aerials stretching over 1200 feet in length between 400-foot masts; two or three engineers moving casually about—and that is all! To an old newspaper man familiar with the batteries of operators necessary for manual transmission by Morse the thing is extraordinary, quite uncanny. Plainly the cable, with its tremendous outlay and cost of upkeep, is doomed for distance work. The ether does not wear out. Cables do, and as they do, they will not be replaced except in special instances.

How Works the Beam?

AND how does the beam work? Two things of interest struck me. First, there is the beam itself and secondly, the messages sent along it. Now the beam is harnessed and controlled in this way. Imagine a stone thrown into a pond. Its circles widen and spread in all directions until the energy is diffused and dies. To prevent that diffusion of energy from the originating point Marconi devised the beam aerial. He reasoned that if he established a number of sending points at