

# BIRTH AND GROWTH OF WIRELESS

## WHAT OF THE FUTURE?

### ALL DREAMS WILL NOT COME TRUE

No. V.

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**T**HIS, the concluding article of the series on wireless specially written for "The Advertiser" by Professor Kerr Grant, deals with the Beam system and with future possibilities, about which latter all scientists of Professor Grant's standing are cautious in prediction, though no doubt they, too, have their dreams.

**F**OLLOWING upon experiments of several years' duration conducted under the vigorous and able direction of Mr. E. T. Fisk, between the Marconi Beam Station in England and the Amalgamated Wireless Company's Australian station, near Sydney, a Beam service of radio telephony was inaugurated between England and Australia on April 30 of this year. The range of operation, 11,000 miles, almost half the circumference of the globe, is the longest of any service in operation.

Despite this enormous distance, with the obvious correlative that a part of the path traversed by the waves must necessarily lie in an atmosphere illuminated and ionised by sunlight, a most gratifying success has been attained. Under the most favorable conditions reception of speech may be distinctly better than is ordinarily obtained on a suburban telephone line a few miles in length.

#### How Wireless Has Served Mankind

In its brief lifetime, which has not yet attained the span of years allotted to mortal man, this wonderful art of radio communication has already become one of the most potent, valuable, and reliable of human utilities. Let us, in conclusion, briefly summarise its services to man.

By furnishing ships at sea with a means of instantaneously communicating with other ships, or with shore stations in time of danger from shipwreck, fire, or other disaster, it has already been the means of saving thousands of human lives and millions of pounds worth of property. Nor do its services to navigation end there.

It furnishes the navigator with Greenwich time, from which he calculates his position more accurately than with the best chronometer. Furthermore, by the agency of the directional antenna, or revolving beam of the radio-beacon, it supplies a substitute for the lighthouse, independent of obscuration by fog or rain or intervening land-height. It effects notable economies of time and money by facilitating the conduct of business between ship and shore.



## Telephoning to the Antipodes

An invaluable ally to its older sister (telegraphy—telephony over wires) it can instantly be invoked to take the place of these in case of breakdown on the line or in the operator's room, or it can be linked up with the land-line service so that a person in Adelaide may now converse with his brother in London, each using his own desk telephone.

It links nation to nation by the medium of the spoken word to the unquestionable furtherance of international goodwill and avoidance of dangerous misunderstandings.

In the broadcasting station it implements the conveyance of speech or music from a single source to all within a range which can extend over a few miles or enfold the whole terrestrial globe.

Already this new medium of instruction, education, and entertainment vies in importance with the printing press, the stage or concert hall, the school, and the public platform in each of their several functions.

With the world-wide extension of range, which has recently been attained, broadcasting is destined far to surpass its present vogue and influence. The reactions upon human thought and human habit which will result from this universality of audition are, as Mr. Ramsay MacDonald has recently said, bound to have profound and far-reaching consequences for mankind.

## Television

By suitably combining the operation of the wireless valve with that of the photo-electric cell, wireless is already applicable to the transmission and reproduction of print or picture with irreproachable fidelity. Strenuous efforts are being made by inventors, backed in some cases by the resources of powerful commercial interests, to make this reproduction instantaneous and in the form of a luminous image so that a visual representation of objects, whether animate or inanimate, may be given. The considerable measure of success which has already been reached in compassing this "television" makes attainment of the goal seem possible, though by no means certain.

## No Wireless Electric Supply

In any case the value and importance of "television" will probably be more limited than the judgment of its too enthusiastic prophets would proclaim it. This disclaimer applies still more strongly to the ill-founded assertions that wireless transmission of power will supersede the present methods of transmission of electric power by means of overhead or underground conducting wires. This assertion is on a par with the view that the distribution of water by means of pipes might be replaced by a general flooding of the city with water. Even in the most effective directional antenna the spreading of the waves would involve a loss of power far greater than occurs in modern power transmission lines over commercially practicable distances. The transmission of power "in bulk," so to speak, is not to be confused with the transmission of signals of sufficient strength to operate a relay opening or closing the circuit of a local power supply. With the aid of valves excessively feeble currents set up by wireless waves can be amplified to a value which easily suffices for the operation of any of a variety of modern types of relay. It is quite possible that the immediate future may see some interesting developments in "remote control" by wireless, but there is at present not the slightest indication that power on such a scale as modern requirements demand can be transferred from place to place by electric waves in space.

This series, now concluded, was begun in "The Advertiser" on Saturday last, and the articles have appeared from day to day.