

WIRELESS MARVELS. TALKING ACROSS THE WORLD. LONDON HEARD IN SYDNEY.

Signor Marconi states that it will be possible by the beam system to talk from anywhere to anywhere, whatever the distance, by wireless telephony.

LONDON, June 3. The "Daily Telegraph" has had an interview with Signor Marconi, who confirmed the news of the successful experiment in wireless telephony between England and Australia.

He said:—My system is not employed in its entirety, because the arrangements are not completed. The system has been used without the beam, but nevertheless without the beam it has been possible to do what was never done before. A speech was transmitted quite clearly, and I am convinced it would be quite easy to conduct conversations between England and Australia, and if it is possible to conduct such conversations, it will be practicable by the beam system from anywhere to anywhere. There will be no distance in future over which we cannot telephone.

The interviewer asked:—Would it be correct to say your new system is used without the beam?

Signor Marconi—Yes, experimentally, the new system comprises something more than the beam. That something we will not speak about at present. The earlier successful experiment between Ireland and Melbourne was telegraphy and not telephony.

ENORMOUS POSSIBILITIES.

The successful transmission of the human voice by wireless from England to Australia, as announced in a message from Sydney, published in Wednesday's issue of "The Advertiser," will be received with enthusiasm by more people than radio workers. Professor Kerr Grant, Professor of Physics at the Adelaide University, stated yesterday morning that this was the first time the human voice had been sent over such an immense distance, and the possibilities in the next few years were enormous. The Marconi Company had been experimenting along these lines for several years, but some credit should be given to Mr. E. T. Fisk, managing director of the Amalgamated Wireless, Limited, for organizing similar experiments in Australia.

Professor Grant said he could only speculate how the message was sent, but he thought it had been transmitted direct on a very short wave length of not more than twenty metres. The transmitting station would be fitted with something equivalent to a parabolic reflector, the focus of which would be situated at the valve transmitter with the axis of the parabola pointing in the direction of Australia. Long wires would be used in the construction of the mirror.

Only by the use of very short wave lengths, Professor Grant explained, was it possible to secure directive effect by such a mirror or alternative arrangement. If a long wave such as was ordinarily used were employed, the directive effect would be small. At the receiving end in Sydney there would also be a similar directive arrangement. This might be a single long wire, or, possibly, a similar set of wires, for focussing the beam on the receiving apparatus.

Would it be possible to amplify the human voice over such a great distance? Professor Grant was asked.

"Yes," he replied, "but, of course, very high amplification would be employed, and the possibility of using such high amplification depends on the absence of parasitic noises, due to atmospheric or static. On such a short wave length, as I think was used on this occasion, these atmospheric noises would be much less troublesome, if, in fact, they could not be eliminated entirely by a highly selective receiving set and with very exact tuning. Although absorption would be much higher with a short wave length, this would evidently be affected by the possibility of concentrating the wave length by means of the parabolic reflector into a beam."

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Dr. E. Angus Johnson has been appointed an honorary consulting physician at the Adelaide Hospital.

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Professor Hunter, who occupies the Chair of Anatomy at the Sydney University, and Dr. N. D. Royle, of Sydney, have been invited to address the Clinical Congress to be held in New York in October. M. Duncan Fraser

DAINGEROUS EXPEDIENTS

Some Currency Fallacies

(By T. S. Opie, B.A., Dip.Ec.)

Owing to the difficulties inherent in barter, gold was selected by the various nations as the medium and standard of exchange. But the gold supply of the world was not sufficient to meet the demand for currency and so paper notes were made to stand for gold.

Nowaday a great credit system has arisen. The basis is the production of goods with gold as the regulator of credit inflation, and paper notes as the channel through which the gold regulator is made to operate. But some people, popularly known as currency cranks, evidently desire to destroy the safety valve of the credit system by issuing paper notes against credit balances in London and public works.

As Australia is very much a debtor nation it is evident that for some time any balances to her credit in London must be due to the proceeds of borrowing in the London market. If notes are to be issued against such credit balances then the way to create money is simply for the Commonwealth Government to borrow it. In other words, London lends Australia £100, and on the strength of this credit balance £100 in notes is issued.

Wonderful scheme! But how are the notes to be redeemed? The £100 borrowed by the Government would be spent on public works, but the works and the profits obtained from them would be security for the loan and interest payments, not for the note issue. Hence the notes, in reality, would be issued against nothing.

Again, suppose that the Commonwealth Government paid for public works by the direct issue of notes and not by raising a loan in London. Here, at any rate, is some security, but there is similar difficulty with regard to redemption. Immediate convertibility is the essence of a healthy paper currency, but the redemption of a public works note issue out of profits would extend over a period of years.

In the former case the note issue would be inconvertible, and in the latter virtually so. Instead of trade requirements the needs of the Government would regulate the issue in both cases. Depreciation would be the inevitable result.

What would be the effect of this depreciation on the present Australian paper currency redeemable in gold on demand? While the credit balance on public works currency is depreciating the gold basis, paper currency would command an increasing premium. Hence the depreciated notes would remain in circulation while the gold-notes would be hoarded or presented for redemption in gold at the Commonwealth Bank. The latter course would be pursued more and more as the foreign exchanges continued to go against Australia until the drain of gold decreased the reserve to the legal minimum. Then the Commonwealth Government would be forced to make these notes inconvertible by Act of Parliament.

So long as gold remains the international medium of payment all such currency schemes which dispense with gold involve the rapid depletion of the existing gold supplies of the nation which adopts the scheme, and leave it with an inconvertible paper currency.

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NEXT SCIENCE CONGRESS

TO BE HELD IN ADELAIDE.

Melbourne, June 5. Many matters pertaining to the scientific welfare of the Commonwealth will be discussed at the seventeenth congress of the Australasian Association for the Advancement of Science at Adelaide, beginning on August 25. Sir John Monash will preside. Professor Sir T. Edgeworth David, of the Sydney University, is one of the vice-presidents.

THE AUSTRALIAN CLIMATE.

AFFECTED BY THE ANT-ARCTIC.

TAIL-END OF AN ICE AGE.

On a cold winter's day it is hard to believe that the earth is "warming up" sufficiently to melt a snowcap 10,000 ft. thick, but Sir Douglas Mawson says it is a fact.

The rise of 22 deg. in the average temperature of Spitzbergen has not occurred at the expense of the Australian climate, according to Sir Douglas Mawson. Speaking to a representative of "The Advertiser" Sir Douglas said his attention had been drawn to the report of the expedition sent by the Norwegian Department of Commerce to Spitzbergen and Bear Island in 1922, published in "The Advertiser" on Thursday. According to this report, great changes in fauna and flora had recently taken place, and a considerable diminution in the number of seals had been noted. The figures were surprising, and if they were correct indicated an unusually rapid change. In any case, Spitzbergen had a comparatively mild climate. This was due to the gulf stream, and any deviation of this current might result in a sudden variation of conditions. Apart from an unusual happening such as this, it was known that the climate in various parts of the world was subject to continuous changes, but these were very slow, and even when a period



Sir Douglas Mawson.

covering 1,000 years was investigated, the difference could only be detected by an analysis of instrumental records. For instance, the average temperature of Sweden had changed to the extent of 4 deg. but as it had taken 2,000 years to accomplish this, even the oldest inhabitant could not claim to have noticed any appreciable difference. When the meteorological records were studied it would generally be found that, despite the oft-repeated cry, "The climate is changing," one season was in reality very much like that of the previous year.

"There are certain variations, however, in the Australian climate which are well known to scientists," said Sir Douglas. "For instance, our rainfall cycle of eleven years shows a rhythmic recurrence. Australia is subject to exceedingly sudden changes of weather, and these are due to the fact that it is between the two great factors affecting the climate of the whole world. One is the excessive heat of the sun at the Equator, and the other the great wind-swept ice-covered mass of land at the Antarctic, where there is fully twenty times as much ice as there is in the north, and where the temperature is consequently much lower."

Sir Douglas pointed out that the meteorological world was awakening to the importance of this Antarctic control, which was so much greater than that of the Arctic regions. Several investigators were at present collating the data available on the subject with a view to showing the result of it in figures. Greater knowledge of the Southern Polar regions was a scientific necessity in meteorological study. It had already been shown that the Indian monsoon was largely controlled by this great Antarctic land mass.

"Meanwhile the ice at the poles is certainly decreasing," said Sir Douglas cheerfully, "but as the enormous area of the Antarctic regions is mostly covered to a

depth of 10,000 ft., the diminution is not visible. Some day even that terrific mass of ice and snow will be melted. If we could return to the earth in 5,000 years we should probably find the climate appreciably warmer, if our sense of comparison with regard to heat values had not been blunted during the intervening period. This "warming up" process will probably continue for 10,000 years before the swing of the pendulum carries the world in the direction of another ice age and its effect is not likely to be noticed this winter."

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CHAIR OF MIDWIFERY.

NOT NEEDED YET, DECLARES THE CHIEF SECRETARY.

Until the effect of the establishment of a special ward at the Adelaide Hospital is seen, the Chief Secretary does not think there is any need to establish a Chair of Midwifery at the University.

Suggestions have been made by various bodies in New South Wales and Victoria, that the time is ripe for the establishment of a chair of midwifery at the universities in those States. So far as South Australia is concerned, the Chief Secretary (Hon. J. Jelley) does not hold the same view. When the matter was referred to him on Thursday, he said the establishment of such a chair had not been brought under the notice of his Government, nor had it been given any consideration. The chief method of training students along these lines had been the opportunities provided by the Queen's Home. It was the intention of the Government, as soon as the additions to the Adelaide Hospital had reached a certain stage, to place a ward at the disposal of expectant mothers. The opportunities then for young medical officers of the institution to become thoroughly conversant with that branch of medical science would be infinitely greater than they were to-day. He recognised the great necessity, and the matter was one of the first taken up with the Inspector-General of Hospitals, who was anxious to bring it to fruition. Whether there was any necessity for establishing a chair of midwifery at the University could be decided after the results of the increased facilities which it was hoped to establish shortly, were seen.

A deputation, which waited on him on Wednesday in regard to giving financial assistance to the School for Mothers he added, was a step along the same lines, because the School for Mothers, rendered valuable assistance in giving pre-natal instruction. The various phases he had discussed all had one object in view, namely, the saving of child life and giving the mother a better opportunity. In the final analysis it gave the young Australian a better chance of becoming efficient, both mentally and physically.

UNIVERSITY LAW STUDENTS' SOCIETY.

A meeting of the University Law Students' Society was held at the University on Tuesday night. The question for debate was set by Mr. D. R. Ross, who acted as adjudicator, and was as follows:—"A. owns a motor car, which he allows his daughter, B., to use whenever she desires. B., accompanied by her fiancé, C., drives the motor car to the railway station to meet D., and drives him to A.'s residence, where he has been invited to stay as A.'s guest. There is no evidence that A. knew that B. had taken out the motor car for that purpose. After leaving the railway station, D. drives the car at B.'s request, and B. sits in the back seat of the car with C. Through the negligence of D. in driving the car at an excessive speed, and not keeping a proper look-out, the car comes into collision with and damages a car owned by E. C. is also injured by reason of the collision. Owing to the bad language used by C. when injured, B. breaks off her engagement with C. E. sues A. and B. for damages in respect of an injury to his motor car. C. sues A. and B. for damages for personal injuries." Mr. P. Cutlack appeared for the plaintiff, E. and Mr. C. J. Kelley for the plaintiff, C. The defendants, A. and B., were represented by Mr. G. A. Fay and Mr. P. A. O'Brien respectively. After arguments by all counsel, the question was thrown open to the meeting for debate, when the following spoke:—Messrs. G. C. Harry, P. P. McCarthy, M. R. Kriwau, H. N. Tucker, P. J. Kelley, B. G. Griff, M. W. Bednall, M. J. McCleay, and P. L. Colliaris. Judgment was given in favor of both C. and E. against B., on the following grounds—1. B. was in the position of owner of the car as regards C. and E. 2. She was guilty of breach of duty to C. and E. through the negligence of D. in driving at an excessive speed. With regard to the liability of A. it was held that—1. If B. was bailee of the motor car, no action could lie against A. 2. If B. was a servant (which was probably the case here), the burden over of the control of the car by B. to D. was an act outside the scope of her authority. Judgment was therefore entered for A. in both suits.