

Federal and State Governments was in the direction of increased production, and text books were being sent out from the Reference Library of the Institutes Association on subjects likely to help in that respect. In addition to its other operations, the council of the association conducted educational classes at many country institutes. For the efficient conduct of those classes technical and trade books were frequently in request, and a duty would limit the usefulness of those educational agencies.

"A tax on books," said Mr. Meleng, "by restricting the importation of the best thoughts of the great thinkers and writers of the world, will starve the intellectual life of the people, and thereby retard the development of a great Australian literature."

Comparison With Other Countries

Mr. Purnell said the prices of books were already high, as compared with those in other countries, and a duty was bound to increase their cost, and so further lessen their accessibility. If the duty were imposed Australians of all ages, and especially the workers, would suffer a severe cultural handicap as compared with the inhabitants of other countries. Owing to financial stringency the Board of Governors of the Public Library had suffered from lack of funds, and an increase in the cost of books would further adversely affect the work of the library. Against the grave disadvantages of a duty there would be no corresponding benefit, since the vast majority of the books could not be manufactured in this country. In nearly all countries, protectionist or otherwise, books were exempted from duty. Already since the war the increase in the cost of books had caused a decline in the bookselling trade, and three large general bookselling shops had closed in Adelaide alone since 1920.



Mr. Purnell

Loss to Universities

Professor Whiston said the books on which the tax would be placed could not, under any circumstances, be produced exclusively in Australia, and a duty upon them would mean a great loss to the universities, with no compensating economic gain to the Commonwealth. The position was substantially the same with regard to books required in schools, colleges, and organisations for adult education. It was very doubtful whether the tax would, to any significant extent, stimulate the production of Australian literature.

Mr. Tidswell said a duty placed on overseas periodicals would make them prohibitive to the wage-earners and their children, who were the principal purchasers of such literature.

CAMBRIDGE RESEARCH STUDENTSHIP

The governing body of Emmanuel College, Cambridge, has called for applications for a Research Studentship which will be awarded in July, 1930. The award will be made on evidence submitted by the candidates. Applications, together with this evidence, must be sent to the Master, Emmanuel College, Cambridge, in time to reach him not later than June 30 next. Preference will be given to candidates who have already completed one but not more than two years of research. The studentship has a maximum value of £150, is normally held for two years, but may be renewed for a third. Further details may be obtained from the Prime Minister's Department, or from the Adelaide University authorities. In the last 30 years more Australian students have held the External Research Studentship than any others.

DEMONSTRATIONS IN PHYSICS

The first of a weekly series of demonstrations in physics, which will be open to the public gratis, will be given to-day in the physics lecture theatre at the University, North-terrace, at 12.15-1.15 p.m., and it will be repeated from 2.15-3.15 p.m. The subject will be the use of gauges and other devices for accurate measurement in length.

UNIVERSITY CALENDAR

The calendar of the University of Adelaide for 1930 has been issued. It contains the usual budget of information. The University, which was established in 1874, started with four professorships. It has now twenty professors and over sixty lecturers, and there are eighteen teachers in the Elder Conservatorium of Music. The academical work of the University was commenced in March, 1876, when there were eight matriculated students and 52 non-graduating students attending lectures. Degrees are now granted in arts, science, law, medicine, dentistry, engineering, music, and agricultural science, and diplomas in commerce, music, education, economics, and political science, and various branches of applied science.

Adv. 26.3.30

ZOOLOGY LECTURER

Miss E. Deland at University

During the absence of Prof. Harvey Johnston in the Antarctic with Sir Douglas Mawson, Miss Effie Deland, B.Sc. (honors) is acting lecturer in zoology at Adelaide University. Her usual avocation is demonstrator with Prof. Johnston, a position which she has held since she graduated in 1926.

"It is fascinating work," said Miss



MISS EFFIE DELAND, B.Sc.

who is acting lecturer in zoology at Adelaide University during the absence of Prof. Harvey Johnston with the Antarctic expedition of Sir Douglas Mawson.

Deland, "and I am particularly interested in parasitology. This year will be wonderful because of the specimens Prof. Johnston is bringing back from the Antarctic. I am looking forward to studying the parasites which I am sure he will bring."

Miss Deland said that for demonstration purposes she recently required some frogs. "There is none obtainable in Adelaide in March," she said, "so we got some from Sydney. They were labelled 'Live Frogs, With Care.'"

First year medical students are those to whom Miss Deland lectures and demonstrates. She is greatly interested in research work in animal biology.

Reg. 2-4-30

MR. CARLILE McDONNELL DEAD

Master At St. Peter's And Former Clergyman

Mr. John Carlile McDonnell, 62, senior English master at St. Peter's College, died yesterday after a severe illness. Formerly a Church of England clergyman, he was a prominent educationist, and a student of literature and the drama.

A native of County Wicklow, Ireland, Mr. McDonnell came to South Australia in 1910, and held charge of St. Bode's, Semaphore, for three years. It was in 1917 that Mr. McDonnell was appointed to the staff of St. Peter's College.

Mr. McDonnell has left a widow, who was Australian substitute delegate to the Assembly of the League of Nations at Geneva in 1928.



Mr. McDonnell

MARCONI'S DISCOVERY MAY REVOLUTIONISE AUSTRALIAN INDUSTRY

Professor Kerr Grant Discusses Amazing Possibilities

"If Marconi has really discovered some method of transmitting electric power over large distances it will revolutionise industry in Australia, and particularly South Australia," Professor Kerr Grant, Professor of Physics at the Adelaide University, said yesterday.

"The maximum range of transmission of power by wires so far is about 300 miles, whereas 600 miles separate us from Morwell (Victoria) and about 1,000 from Newcastle or Maitland coalfields. As to what Marconi is doing, we can only guess.



Prof. Kerr Grant

"My guess is that he has found a method of generating from powerful waves of a wave length much shorter than that used now in the beam system of telephony—perhaps of one or two metres; and a way of focussing the beam waves so that the loss by spreading or diffraction may be very small."

What the professor regards as very doubtful is whether such a beam could be transmitted from one side of the world to the other, since this transmission depends upon the reflection of the waves from the upper atmosphere, which is necessarily accompanied by much absorption.

END OF TRANSMISSION LINES

"If Marconi's system is successful," said Professor Kerr Grant, "it will abolish the whole cost of transmission lines."

"Therefore, if we received here only half the power put in, say, at Morwell, it would still be much cheaper than any present method of obtaining power."

There is an abundant supply of coal in New South Wales and Gippsland, the professor said, but it had to be brought here to be converted into power for South Australia.

"If the generator is on the spot and the power is transmitted there by some cheap and efficient method," he said, "it would obviously put South Australia very much on a level with New South Wales and Victoria as an industrial State, and would be a wonderful thing for Australia generally."

LEAKAGE DANGER

The professor pointed out that even if Marconi had hit upon some revolutionary method of generating and transmitting power, it would be of little use if most of the power were lost before it reached its destination.

To shoot 1,000 horsepower into space at Genoa would be of no commercial value if only one horsepower reached Sydney.

"Marconi," he added, "must have found a way of generating hundreds of horsepower in very small space. If he intends to transmit wireless beams from one country to another, he must have found a way of generating short-wave wireless energy much more powerful than any we are now equipped with, and he must have found a way of transmitting it in a beam without loss."

"One can only hope that he has found it," said the professor. "If it is only 10 per cent, true there will be no more difficulty about talking to London."

Adv. 27.3.30

SYDNEY LIGHTS SWITCHED ON FROM MEDITERRANEAN

TOWN HALL LIT UP BY WIRELESS

SIGNAL PICKED UP IN ENGLAND AND RELAYED TO VICTORIA

LAST STAGE OVER LAND LINE

Sydney, March 26.

From his yacht Electra, in the Mediterranean Sea, the Marchese Marconi to-night switched on 2,800 electric lights in the Sydney Town Hall, where an electrical and radio exhibition was opened. Experiments were carried out by Mr. E. T. Fisk (of Amalgamated Wireless), and it was arranged that a signal should be sent from the Town Hall to the Marchese at 8 o'clock, when everything was ready for the turning on of the lights.

This was done, and almost immediately the hall, which had been in semi-darkness, was flooded with light.

The success of the transmission of the Marchese Marconi's signal, which occupied less than one second, was cheered by the large gathering, which included many people interested in radio and electricity.

Sent From Mediterranean

The signal, sent from the yacht Electra, was picked up by the Marconi station in Dorsetshire, in the South of England, and relayed to the beam wireless station at Grimsby, in the north, from which it was relayed to the beam receiving station at Rockbank (Victoria). From that point it was carried over the land line to the Sydney Town Hall, operating a switch there,

which turned on the lights. It would have been possible for the signal to be sent direct to Sydney, but atmospheric conditions at present prevailing between Europe and Australia, suggested the advisability of using relays.

The intimation to the Marchese Marconi from Sydney that the hall was ready to be lighted was

the Marchese Marconi, wonderful as it may seem, comes as something of a disappointment," said Professor Kerr Grant last night, after he had been acquainted with the result and particulars of the experiment.

The feasibility of such a "super remote control" as had just been exercised by the Marchese in Italy on an electric light circuit in Sydney had been recognised for some time, he said, by those who were aware of recent remarkable advances in the construction of sensitive electrical relays. There were at least two types of relays of sufficient sensitivity to respond to currents of the order of a millionth of an ampere or less, and such currents could easily be obtained by multiple amplification of quite feeble wireless signals.

English and German Types

"One such relay, known as the 'oscillating valve relay,' was invented some years ago by Dr. L. H. Turner, of Oxford. In this a valve circuit was adjusted by variation of the grid-bias to the very verge of oscillation. The incoming signal amplified and rectified and, applied to the grid of the valve, set it in oscillation, with a consequent large increase in the plate current which could be used to operate a mechanical relay of any known pattern. The other type was a recent German invention, the so-called 'Glimm-relay' of Geffcken and Richter. It had



Mr. McDonnell