

# TWO EMINENT PROFESSORS

## Fame Began in Adelaide

(By FRED JOHNS, Author of "Notable Australians")

Of special interest to many South Australians is "The Times Weekly Edition," received by the latest mail, containing photographs alongside one another of two eminent men of world fame—Prof. Sir Horace Lamb, F.R.S., and Prof. Sir William Bragg, F.R.S., formerly occupants of the chair of mathematics in the University of Adelaide, and both included in the King's birthday honors last month.



Sir William Bragg

Dr. Lamb, with many academic distinctions to his name, now Emeritus professor of mathematics at Manchester University, received a knighthood, and Sir William Bragg was admitted to the very limited circle of the Order of Merit, probably taking the place in this exalted company of the late Earl Balfour.

"The Times" asserts that the most interesting name in the honors list "is that of Sir William Henry Bragg, the great physicist, famous for his work on X-rays and crystals, who is the only recipient of the Order of Merit."

THIS renowned physicist is one of the world's authorities on radium. As another English newspaper writer stated recently he "continues to distinguish himself as one of the most advanced of those scientists who concern themselves with the atom, and as director of the Davy-Faraday Research Laboratory in the Royal Institution he still leads the world in that direction."

The latest honor to Sir William is especially appropriate in this, the centenary year of Faraday. While at Adelaide University, where he held the chair of mathematics and physics for 21 years, Prof. Bragg (created K.B.E. in 1920) was elected a Fellow of the Royal Society for his research work in radioactivity, and he was awarded, conjointly with his distinguished son, the 1915 Nobel Prize for physics.

Sir Horace Lamb, who is 82 years of age, like Sir William Bragg (not yet 70) has been president of the British Association. Lamb, too, started on the road to fame in the realm of mathematical physics during his professorship at Adelaide, which he left to go to Manchester in 1885, after 10 years' residence here.

YOUNG Prof. Bragg, who was then only 23 and fresh from Cambridge, succeeded him. The first edition of Lamb's notable work on "Hydrodynamics" was dated from Adelaide. Another great book of his is "Infinitesimal Calculus."

Prof. W. Lawrence Bragg, F.R.S., Sir William's celebrated son, successor of the famous Sir Ernest (now Lord) Rutherford in the chair of physics at Manchester University in 1919, was born in Adelaide, went to St. Peter's College, and graduated at our university in 1908, the year his father left for Leeds University.

Sir Horace Lamb's son Henry, a distinguished artist, was born in Adelaide in 1883, the year his father was appointed to Manchester, and in later years was educated at that university.

FURTHER interesting coincidences are revealed in the fact that Sir Horace Lamb and Sir William Bragg both graduated at Trinity College, Cambridge, of which university Lamb was second wrangler in his year, and Bragg, third wrangler in 1884.

The venerable Canon F. Slaney Poole, of Adelaide, tells with delight that his first teaching appointment after leaving Cambridge in 1863 was at Steepleport Grammar School, where he corrected exercises by Horace Lamb, and that two or three years after Prof. Lamb took up his duties in the University of Adelaide in 1875, the canon temporarily occupied the chair of classics at this institution.

# RECENT PUBLICATIONS

## DOMINANT ISSUE IN THE PACIFIC

By PROFESSOR W. K. HANCOCK

The Japanese Population Problem. By W. R. Crocker. London: Allen and Unwin.

This book has special claims on the attention of the Australian public. In the first place, the author is an Australian, a graduate of the University of Adelaide who has continued his studies at Oxford and in America. He is now entering on a career in the British Colonial Service. If this book may be taken as a measure of his abilities, the career will be a distinguished one. For the book (this is its second title to special attention here) is very good indeed. And, finally, it deals with a subject which is of great importance to Australia and to every other Pacific country. For, as the author proves, "Japan's foreign policy will be determined by her population problem; and to say this is to mark out her population problem as the dominant issue in the Pacific Region."

It would be doing an injustice to the book to summarise its "conclusions," for the author does not proceed by a series of emphatic pronouncements. His method is to take the reader into his confidence by defining, with as much precision as possible, the problems which he intends to attack, and then to carry the reader with him over the whole field of evidence (statistical, geographical, historical, economic, "psychological") upon which an understanding of the problem depends. But the evidence, although it is sufficient for an understanding of the problem, is not always sufficient for its solution. At the conclusion of the book, Mr. Crocker raises a whole series of questions about the future of Japan, and then confesses "As yet the answers are unknown, and the present writer, though avoiding the pessimistic view of Japan's future with difficulty, does not dare to suggest what they may be." How rare, and how precious are those specialists who have the wisdom "to doubt a little of their own infallibility!"

### Population Problem Differs from That of England

Mr. Crocker does not give cut-and-dried answers to the momentous questions which he considers, but he does make exceedingly plain the various factors on which these answers will depend. The "true" rate of natural increase in Japan (that is to say, the rate of natural increase in relation to the number of persons within the reproductive age-limits) is decreasing. There is a distinct fall in the fecundity of Japanese families, together with a not insignificant retardation of the average age of marriage. But, at the same time, the age constitution of the Japanese population is such that the next generation will witness a progressive increase in the reproductive group as a proportion of the whole population. The position is in direct contrast with that of England, where, even if families were to become larger, the "crude" rate of natural increase (that is to say, the rate of natural increase in relation to the whole population) would continue to decline. In Japan, individuals may go on begetting, as they already are begetting, fewer and fewer children than did their fathers and grandfathers, but there will be so many individuals in the begetting ages that the aggregate number of children born in any one year is bound to be great throughout the next two or three decades. Simultaneously, there is (apart from improved hygiene) likely to be a marked decline in the death rate, owing to the diminishing proportion of elderly persons in the population. "In consequence we are to expect that it will be twenty or thirty more years hence before a pronounced turn towards a stationary level is made, and that at least 15 to 20 million persons will be added to the present numbers before then."

Can Japan support these increasing numbers, while continuing to improve, or even to maintain, her standard of living? And, if she cannot, what will be the results of her failure? Mr. Crocker confines himself to the first question. In a chapter on "Growing Their Own Food" he argues that the high yield of rice per acre is offset by the low yield of rice per man, that agriculture is already yielding diminishing returns, and that the pressure of numbers on the agricultural soil has already created a grave economic and social problem, which has been in part alleviated (probably only temporarily) by sericulture. He examines the opportunities of extending the efficiency of agriculture and the area under cultivation, and concludes that the best that Japan can achieve in these direc-

tions will not enable her to grow food sufficient for her needs. (The author, it should be stated, is aware of the more optimistic estimates which have been published.) Japan already imports one-fifth of the rice which she consumes; in the future she will almost certainly be compelled to increase this proportion. Like nineteenth century England, she will have to export more and more manufactured goods in order to pay for raw materials and food. But the world in which she must seek the markets for her goods is no longer the easier world of the nineteenth century—it is the twentieth century world of rising tariffs, shrinking markets, and fierce competition.

### Trade Position Precarious

In a chapter on the "Way of Industrialisation," Mr. Crocker considers the competitive strength of Japan as an industrial country, and underlines her weakness in iron, coal, and oil. The argument throws into high relief the vital importance to Japan of her interest in Southern Manchuria, as a partial compensation for her natural deficiencies. The present trade position of Japan, resting primarily on two industries, silk and cotton, and on two highly unstable markets, the United States and China, is shown to be very precarious. In a fine passage, Mr. Crocker imagines the difficulties and tragedies of the way that leads from the old Japan to the new, from the old loyalties of family and class to modern industrialism, and "all that is connoted in passing from Status to Contract—impersonality, competition, recurring unemployment, and that despairing, bitter cry of an urban proletariat which men misjudge for Socialism and a theory of the State. . . . But the way is not unattainable."

Sociologists sometimes appear to believe that ability to write the King's English is an unfair advantage which some members of their profession possess over others. They may even pretend that a good style has no place in statistical enquiries. This attitude is utterly wrong-headed. A good style clarifies thought. And all those other qualities which make a cultured man—the knowledge of ancient civilisations, philosophy, humility, wit, a feeling for perspective—all these will help their fortunate possessor to wring more meaning even from the most severe and specialised studies. Of this, Mr. Crocker's book is a proof.

### The Creed of White Australia

In one important respect, however, Mr. Crocker was not well equipped for his task. He does not know Japanese. At first sight, this handicap might appear overwhelming, and it remains serious even when one considers the vast amount of statistical and critical material relative to Japan which is available in European languages—compilations of the League of Nations, of the Americans, French, and British Governments, learned publications in English, French, German, Italian, and so on. All of these Mr. Crocker has consulted. He has also had the courteous assistance of Japanese scholars, who have discussed with him their studies or translated for him materials which he could not read at first hand. Still the handicap remains, and the author himself cautions the public against regarding his book as an exhaustive and final pronouncement on the problem with which he is concerned.

In conclusion, it is desirable to draw the special attention of Australian readers to a chapter on emigration. Mr. Crocker shares the orthodox opinion that emigration cannot solve a country's population problem; but he believes that the special conditions of the Japanese problem makes emigration a by no means negligible palliative. This fact is likely to influence Japanese policy in the future. Australian nationalists may be surprised by the ease with which an internationally-minded Australian ignores our "Monroe Doctrine for the Pacific," and wavers in the creed of White Australia.

# MAN'S DEPENDENCE ON MINING

Mr. Gartrell Explains

Mining is so important to the human race that civilisation can endure only so long as mining flourishes, and men are willing to go down into mines and bring forth the treasures of the earth for the sustenance and pleasure of mankind. That opinion was expressed by Mr. H. W. Gartrell, in a lecture on "The Future of Mining," at the University last night.

He said that five times more metal was being used today than 35 years ago. In the production of iron, salt, and gypsum, he thought South Australia was likely to lead the rest of the Commonwealth. There was enough high-grade iron ore in this State to satisfy the present demands of Australia for 200 years. In Spencer Gulf there was an inexhaustible supply of salt. The

# Adelaide Delegation to London Conference

## PAPER BY DR. FENNER

South Australia will be strongly represented at the centenary conference of the British Association for the Advancement of Science, which will begin in London on September 23.

Delegates from this State will be Professors Kerr Grant and R. W. Chapman, of the University of Adelaide, and Dr. Charles Fenner (Superintendent of Technical Education). They will leave by the Balranald on August 5. Dr. Fenner will have the honor of being one of the few Dominion representatives to submit a paper to the distinguished gathering. General Smuts, former Prime Minister of South Africa, will preside.

The British Association for Advancement of Science was founded at York (England), and that city will be visited as one of the functions connected with the centenary celebration. A delegation from the association, under the leadership of Sir Oliver Lodge, visited all Australian cities, including Adelaide, in 1914, but the outbreak of the war cut their programme short.

The Australian delegation to the conference will be led by Sir Hubert Murray (president-elect of the Australian association), and will include also Professors Skeats and Ewart, of Melbourne University, and Mr. Clive Lord, of the Tasmanian Museum.

Professor J. W. Gregory, author of the "Dead Heart of Australia," will preside over the geology section, and Professor Radcliffe Brown, recently of the Sydney University, will be chairman of the anthropology section.

### X-Ray Radium

The principal investigations of Professor Kerr Grant will concern X-ray and radium treatment and radio-therapy. The professor also will make the most of the opportunity of seeing the latest development in wireless and television, and specially the ultra-short wave, or micro-ray system.

"Recently," said Professor Grant yesterday, "there was a successful demonstration from Dover to Calais on an 18 centimeter, or about 7 1/2 inch beam. The great advantage of such a system is its secrecy, as it is very difficult to intercept such a short beam. While in Berlin I will look at the latest photoelectric cells used in the 'Talkies.' Their efficiency is 50 times greater than those at present used."

While in England, he will visit some of the Adelaide University men who hold important positions in Great Britain, including Professor Henry Brose (Professor of Physics at Nottingham University), Mr. Mark Oliphant, who recently was given an important post in Lord Rutherford's Cavendish Laboratory, and Mr. A. L. Reimann, a son of Mr. I. G. Reimann, of the Elder Conservatorium, who is in the research laboratory of the General Electric Company at Wembley.

### Engineering Schools

Professor Chapman intends to view some of the latest engineering works and visit the engineering schools of the universities. The physical laboratories, where a large amount of research is undertaken will also claim his attention.

Both he and Professor Grant will attend the Michael Faraday centenary celebrations being arranged by the Royal Institution, of which Sir William Bragg is the president.

"It is interesting to Australians," said Professor Chapman, "that Professor Bragg now occupies the position held by Faraday himself, and he is worthily upholding the traditions of the position which has been occupied by many eminent men."

Professor Chapman said among those who would deliver lectures to the conference were Sir James Jeans and Sir Oliver Lodge.

### Geography of South Australia

Dr. Fenner will represent the Australian Association for the Advancement of Science, and also the South Australian Royal Society, of which he is president. Before the geographical section he will speak on the "Structural and Human Geography of South Australia."

He is anxious to visit technical and trade schools in London, Edinburgh, and Germany, and special schools in Great Britain where experiments in individual education are being conducted on lines similar to those of the education department at the Thebarton Technical School. As a member of the Public Library Board, he will attend the jubilee of the British Museum of Natural History. He has also been nominated a delegate from the South Australian Geographical Society to the International Congress on Geographical Education, Paris.

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### Middy Organ Recital

Excellent musical fare, ranging from Bach to Wolstenholme, was provided by Mr. John Horner in his lunch hour recital on the Elder Hall organ yesterday. It was obviously enjoyed keenly by the throng of business folk and University students present. The Bach item was the "St. Ann" prelude and fugue, delightfully presented. In the Wolstenholme "Question" and "Answer," the work of London's greatest living blind organist was played with felicitous effect, and clever contrasts in flute and reed tonal coloring. Mozart's overture to "Figaro," with its melodic charm captivated hearers, and, in quite another vein, the Widor fifth symphony toccata was pleasing.

Miss Rita Nelson and Mr. Leonard Morphett joined in a creditable rendering of "Love Divine" (Stainer), to the recitalist's expressive pianoforte accompaniment. On July 30, Mr. Horner's programme will include "Epinikion (Song of Victory)" composed by Dr. Cyril Rootham, who for the past three decades has been organist of St. John's College, Cambridge.