

TESTS WITH NEW TYPES OF HYDROGEN

Young S.A. Man At Cambridge

"HEAVY" WATER

TEXTBOOKS, unless written within the last few months, tell us that water is composed of certain elements mingled in stated proportions. From this it is, or was, assumed that all water was basically alike.

Last year, however, it was discovered that we might have a water in which "heavy" hydrogen occurred and which would be quite different from the ordinary water. Not only would it be "heavy" water, but, although perfectly pure, it would be poisonous.

Thus two types of water had to be recognised, and they differed essentially in their properties because of the difference in the character of the hydrogen.

The "heavy" water is not to be drawn from fountains nor found in streams and wayside pools. It is at present entirely a product of the laboratory.

Already many interesting facts have been discovered about the new type of hydrogen. The fact that water containing it is poisonous to primitive life has led to the suggestion that it has a possible future in the reduction of fevers.

Also, the new kind of water freezes 8 deg. above the freezing point of ordinary water, and here, too, possibilities of a practical nature suggest themselves.

Hardly has the scientific world taken into account this new discovery than there has come news of further revelations from Cambridge, where yet a third kind of hydrogen has been discovered, largely because of the researches of a South Australian scholar, Dr. M. L. E. Oliphant, formerly of the Adelaide University.

For some time Dr. Oliphant has been carrying out experiments and recording transmutation effects observed with heavy hydrogen in the Cavendish Laboratory, which is under the direction of Lord Rutherford, the well-known physicist.

Lately they have been joined in the investigations by Dr. P. Harteck, a young German scientist, who is enlarging his experience of research work at Cambridge.

The researches of these scientists into atomic structure and activity have revealed the interesting fact that two atoms of the new heavy hydrogen can be made to "knock each other out" and yield a third kind of hydrogen, which is even heavier than the last.

The newest hydrogen should yield water freezing at an even higher temperature than 8 deg. above the freezing point of ordinary water.

As it is probable that the newest type of hydrogen may exist under natural conditions as a very small proportion of ordinary hydrogen, as does what has hitherto been called heavy hydrogen, it is to be expected that it will in time be separated from it. There will then be at least three different kinds of water, all with markedly different properties.

What is of particular interest to the scientists in these researches is that the results have given them a new and an exceptionally interesting kind of atom to exploit. Infinitely small as it is, it may prove to be a door opening into new realms of great extent.

It is gratifying to find a South Australian successfully pioneering some of the new country in the fairyland of science.

Mr. Harry Hutchins, the 20-year-old Adelaide violinist, has been appointed to staff of the Albert Street Conservatorium, Melbourne. Mr. Fritz Hart, the well-known musician and composer, who is director of the conservatorium, heard the young player recently in Melbourne, and was greatly impressed by his work. Mr. Hutchins, who is the youngest member of any conservatorium staff in Australia, left Adelaide about six months ago with Mr. Marshall Sumner, the Melbourne pianist, and the two artists have been on a concert tour of the eastern States. Mr. Hutchins was given his first lessons by his father, but after three years he went to the late Mr. Charles Schilsky at the Elder Conservatorium. When Mr. Schilsky resigned from the conservatorium staff he predicted that Mr. Hutchins would be famous by the time he was 21. Mr. Peter Bornstein was his latest teacher. Last week Mr. Hutchins gave a well-attended recital in Melbourne, which received favorable comment from critics. Among the audience was Mr. Percy Grainger, who also predicts a successful career for the former Adelaide player.



Mr. H. Hutchins

Adv. 3-5-34

Mr. K. T. Hamilton has been appointed secretary of the Adelaide University Union and the Adelaide University Sports Association, in succession to Mr. P. C. Greenland, who recently resigned to take up another post at the University of Tasmania. Mr. Hamilton will begin his new duties at the University this morning. Educated at St. Peter's College, Mr. Hamilton continued his studies at Oxford University, which he entered in 1910. At Oxford he rowed in the trial eights for two seasons, and was also a member of the Leander Rowing Club. Mr. Hamilton is a son of the late Dr. T. K. Hamilton.

Adv. 4-4-34

30-YEAR-OLD PUBLIC ACTUARY

New Zealander For S.A. Post

MAY LATER BECOME STATISTICIAN ALSO

After having spent four months, during which it advertised throughout the British Empire, in a search for a qualified successor to Mr. O. H. Gawler (former Public Actuary), the Government yesterday appointed Mr. Andrew Ward Bowden, of Wellington, New Zealand, to the position, at a salary of £720 a year. Mr. Bowden, who is only 30 years of age, will leave New Zealand almost immediately to take up his new duties.

The appointment of Mr. Bowden, who, despite his youth, has had considerable experience in actuarial and statistical work for the New Zealand Government, is fraught with special significance in view of the strong possibility of the actuarial and statistical departments in this State being merged. This system obtains in Victoria, and it was to fill the dual position in that State that Mr. Gawler resigned his position in South Australia. The post of Public Actuary in Adelaide has been vacant since the beginning of this year, and the Government Statist (Mr. Johnston) will reach the retiring age of 65 in September. Mr. Bowden may not by then have acquainted himself sufficiently with local matters to be able to take over the dual position, and it is possible that Mr. Johnston's services may be extended, but it is known that the Government desires to merge the departments, if possible, in the interests of economy.

The Chief Secretary (Mr. Ritchie) said yesterday that the Government would consider the position when the time came.

"The policy of the Government," he said, "is to economise wherever possible without reducing efficiency. The new Public Actuary is qualified in statistical work, and is capable of taking charge of that department. Such a move would result in a substantial overhead saving, and would enable the work to be carried on with no loss of effectiveness."

BRONZE POLAR MEDALS FOR MAWSON'S MEN

Echo of Antarctic Expedition

("News" Special Representative)

LONDON, May 2.—The King has approved the granting of bronze Polar medals to members of Sir Douglas Mawson's expedition to the Antarctic in 1929-31. There will be 56 recipients, including several residents of Adelaide.

Of the 56 members of the British, Australian, New Zealand Antarctic Research Expedition who will receive the King's bronze Polar Medal, 15 were members of the special scientific and technical staff, seven were ships' officers, and 34 members of the crew of the Discovery. The only Adelaide residents are Sir Douglas Mawson, Prof. Harvey Johnston, of the University of Adelaide, Messrs. A. L. Kennedy, and A. Howard, who was formerly on the Adelaide staff of the Waite Research Institute. The majority of the ship's officers and staff were Australians, and the greater number of the crew comprised overseas men.

The bronze medal is awarded for ship operations. Sir Douglas Mawson has received silver Polar Medals on two previous occasions—the British Ant-

arctic Expedition of 1907-9, and the Australasian Antarctic Expedition of 1911-4.

[Sir Douglas Mawson today said that up to the present very little had been published concerning the work of the expedition, but efforts were being made to complete the preparation of detailed reports, and it was hoped that printing would begin shortly.

It was expected, he added, that a large series of volumes would result, for the data and collections were very extensive. When the reports were made available the knowledge of the vast stretch of the Antarctic, extending from the 160th to the 45th degrees of east longitude, in which Australia was now interested, would be found to be surprisingly concrete and detailed.]

Adv. 10-5-34

NATIVE SPECIMENS PURCHASED

Dr. Basedow's Collection For National Museum

The decision of the Federal Cabinet to purchase for £500 the late Dr. Herbert Basedow's collection of native weapons and so on, was the result of negotiations which have been proceeding for three months. Last February it was suggested to the Federal Government that it should acquire the collection for the National Museum at Canberra, rather than allow it to be obtained by an overseas institution.

While the Government was considering the matter, representatives of several interested bodies came to Adelaide in connection with the matter, including one from the Australian Museum in Sydney, and it was reported that more than one overseas country was anxious to acquire the collection.

Last week, however, the Clerk Assistant of the Senate (Mr. Broinowski) visited Adelaide to examine the collection at the home of Mrs. Herbert Basedow, at Kent Town, and as a result, it is understood, Mrs. Basedow agreed to accept £500 for the curios. This figure was approved by Cabinet yesterday, and the Minister for the Interior (Mr. Perkins), in making the announcement, said the Government considered itself fortunate in being able to thus obtain for the nation such a valuable and historic collection.

The collection is the result of 25 years' work by Dr. Basedow, who gathered pieces from all over Australia, and even from the islands off the north-east coast. In all there are several thousands of specimens, as well as 2,000 photographic negatives and 1,000 lantern slides, showing phases of aboriginal life and ceremonies. Many of the specimens are the work of tribes now extinct.

Although many pieces of the collection would have formed a valuable addition to those in the Adelaide Museum—could that institution have afforded the purchase—it is pointed out that this section of the Adelaide Museum is already better equipped than any other museum in Australia.

Until the Canberra Museum is built the collection will be in the care of Sir Colin Mackenzie, at the Australian Institute of Anatomy, Canberra.

Adv. 10-5-34

Adv. 4-4-34 cont.

Strong Recommendations

Backed by the strong recommendation of Mr. Gawler, and of administrative heads of New Zealand Government actuarial departments, Mr. Bowden's application for the South Australian position was successful among several which the Government received, including one from England.

From 1923 to 1927 Mr. Bowden served on the actuarial staff of the New Zealand Government life insurance department, where he gained much experience of the routine work of valuation and general actuarial work. Since 1927 he has been employed in the Government Actuary's Department at Wellington, being junior only to the Government Actuary, under whom he gained wide knowledge of financial and statistical work.

All Friendly Societies registered in New Zealand are valued and advised by the Government Actuary, whose duties cover also examination of pension and superannuation funds.

Mr. Bowden is an associate of the Institute of Actuaries (London), and has passed Part IV, Section B of the Fellowship Degree, which relates to pension funds, social insurance, and general statistics. He is at present taking Section A, the passing of which will complete the examination.

Adv. 5-5-34

Mr. R. H. Chapman, Chief Engineer of the S.A. Railways, has been elected chairman of the Institution of Engineers (Australia) Adelaide Division, which has a membership of about 250. Mr. Chapman, who graduated at the University of Adelaide, and is a Master of Engineering, is also a member of the Council of the University. The retiring chairman of the I.E.A., Adelaide Division, is the Railways Commissioner (Mr. Anderson).



Mr. R. H. Chapman

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Adv. 9-5-34

SCIENCE CONGRESS IN MELBOURNE

The first circular with information concerning the twenty-second meeting of the Australian and New Zealand Association for the Advancement of Science has been issued by the Victorian committee. The meeting will be held in Melbourne from January 16 to 23, 1935. The retiring president of the association is Sir Hubert Murray, Lieutenant-Governor of Papua, and he will be succeeded by Sir Douglas Mawson, who will take office at the Melbourne meeting. The last occasion on which the association assembled in Melbourne was in 1921, when the meeting, which had been arranged for Hobart, had to be transferred owing to a shipping strike, which prevented mainland delegates going to Tasmania.

Professor Walter Howchin has been informed by the Royal Society of New South Wales that, at the annual meeting recently, he was unanimously elected an honorary member "in recognition of eminent services to science."

Adv. 10-5-34

Professor Kerr Grant, who is deputy chairman of the South Australian committee of the Council for Scientific and Industrial Research, has gone to Sydney to represent that body at a meeting of the council.