

leader, and attempted to show that the world heard only of the worst features of nationalism and overlooked its best. The third speaker, Mr. G. E. Hedges, began very well in an entertaining manner, but allowed himself to be side-tracked into a discussion of subjects, such as education, which although naturally relevant, could not at that stage abolish the picturesque arguments of the Melbourne team.

The adjudicators were Messrs. C. C. Crump, G. C. Harry, and R. F. Newman.

Final Debate Tonight

"Civilisation Destroys Personality" will be the subject for the final of the inter-university debates to be held at the University Refectory tonight. Western Australia, winner of the debate on Tuesday and the amount of the winner of the semi-final debate last night, will take part.

The teams will be—Western Australia, Messrs. V. St. J. Green (leader) and G. D. Clarkson, and Miss D. Tangleay; Melbourne, Messrs. K. T. Kelly (leader), R. W. V. G. Kneveland, and G. M. G. Justice Angus Parsons, the Acting Chief Justice, will preside, and Messrs. W. C. Kneveland, J. Griff, and the Rev. J. H. Cross will be the adjudicators.

Which trio from Port Adelaide has been arranged for today which will be the final tonight a dance will be held.

Tomorrow morning there will be a meeting of the University Debating Council. After the meeting members of the visiting teams will be driven to Melbourne. In the evening the inter-university dinner will be held at the Southern Cross Hotel. All States will be represented.

ATTRACTING DOCTORS TO NAVY

29 AUG. 1935
New System of Short Service Commissions

SYDNEY, August 28. The Minister for Defence (Mr. Parkhill) announced several changes in the conditions under which medical officers join the R.A.N. He said that a system of short service commissions of three or five years had been instituted, under which, in addition to active pay amounting to £484 a year, gratuity to the amount of £1000 after three years and £1,000 after five years service are granted. This system, it was considered, would aid in building up a reserve of medical officers in better service conditions, and it presented considerable financial advantages to the Government. Officers might wish to accumulate a sum of money before embarking on general or specialist service.

Mr. Parkhill said that suitable officers, entered under the short service scheme, would from time to time have the opportunity of being transferred to the permanent naval medical services, should they so desire. As a general rule, officers under a short service commission would spend one-third of their time in one of the warships and the remainder in the shore depots in Melbourne and Sydney.

ADELAIDE HOSPITAL DOCTOR ILL

29 AUG. 1935
House Surgeons Now Reduced To 11

Yesterday Dr. R. Day, one of the Adelaide Hospital house surgeons, was reported to be in a serious condition, suffering from pneumonia, which he developed on Monday. It was stated that he would not be able to resume duty for many weeks.

As Dr. Stewart, a young New Zealand woman doctor, who resigned from the staff recently and left for the end of this week for England, Dr. Day's illness reduces the number of house surgeons available at the hospital to 11. It is below the minimum number regarded as necessary.

It was pointed out yesterday that as the honorary doctors worked under a fixed schedule of visits to patients at the hospital—two mornings a week for each medical and surgical honorary and two operations a week (one morning or afternoon) for the surgeons—it could not relieve the pressure of work on the house surgeons.

Four fourth-year medical students, who have gone into residence at the hospital, are only available for writing case histories and doing a certain amount of routine work under direction.

HOSPITAL TO BE FULLY STAFFED

Assurance by Attorney-General

An assurance that the Adelaide Hospital would be fully and efficiently staffed was given in the Assembly by the Attorney-General (Mr. Jeffries).

Mr. Dale (A.L.P.) asked if it was correct that there was a shortage of 28 doctors at the hospital. Mr. Jeffries said there was certainly not a shortage of 28 resident medical officers, as the total number did not reach that amount. There was also not such a shortage of honorary surgeons, as these positions were greatly sought after by the medical profession.

Mr. Richards (A.L.P.) asked the Minister how he reconciled this statement with that of the Acting Premier (George Ritchie) that, if necessary, young medical officers would be sought in England. Mr. Jeffries replied that this showed that the Government was determined to have the hospital adequately staffed.

Replying to the leader of the Opposition (Mr. Rogers) he said that it was not correct that most of the doctors who qualified in South Australia were in the United States. The fact that some had done so was entirely their own business, and was not the concern of the Government.

WEDDING TO INDUSTRY

Link Never Closer RESEARCH AGE

Economic Pressure The Cause

Economic and political considerations, says Professor Bruce, a former South Australian Rhodes Scholar, who is now professor of the Department of Physics at University College, Nottingham, demand rapid development in technical and applied science. Never has the link between science and industry in England been so close as at the present time.

Reference is made in this, the third article of a series specially written for "The Advertiser" by Professor Bruce, during a visit to Australia, to the work of Professor Sir William Bragg, and his equally famous son.

By HENRY L. BROSE, M.A., D.Phil (Oxon).

If we look back on the development of physical science in the last forty years we find that the beginnings of practically all the present sciences were in the last five years of the nineteenth century. It was in 1895 that the Dutch physicist Lorentz propounded his theory of electrons to account for certain electrical phenomena. In the same year Röntgen discovered X-rays, being the first to apply the scientific and applied science to many years. It is perhaps not too much to say that Röntgen's discovery was the most important practical discovery of the age in its far-reaching consequences, for not only have X-rays made it possible to reveal the structure of the atom, but they have also been an invaluable help in medical diagnosis and as a therapeutic agent. Moreover, they paved the way for a host of discoveries, such as radioactivity, cosmic rays, and various physical effects of great significance.

Röntgen was the first scientist to obtain the Nobel Prize for Physics, the value of which is nearly £10,000. It is not too much to say that his great contributions to science and humanity, he lost his entire capital during the war and in the inflation period which followed it. It is necessary to make a collection for him, to which English colleagues generously contribute. We should like to see the medical advisers stated that his death was actually due to under-nourishment.

Notable Adelaide Scientists

His work, as applied to the atom, was carried out in London, who also received a Nobel Prize in 1927. The next important workers in this field were the Braggs. It will be remembered that William Bragg was the professor of physics at the University of Adelaide till shortly before the war.

His son, a graduate of the Universities of Cambridge, is now Professor of Physics at Manchester. Their joint contributions on X-rays, and applications of the rays obtained for the third Nobel Prize, were awarded for their work in the sphere of activity. The investigation of the structure by means of reflected X-rays, which they initiated, opened up an entirely new field of science. By taking photographs of crystals it has been made to glance off the surface of crystals. They were able to discover the arrangement of atoms in the crystal. In recently used in industry to detect changes in the surface of metals which treatment. They are also being used nowadays in textile work, to study the changes that occur in fibres as a result of processes that cause alteration of structure and properties which defy detection by other methods. In metallurgy much light has been shed on the presence of impurities and distribution of atoms of subsidiary ingredients in alloys. It may now be said that no investigation of the structure of a complete without an X-ray apparatus. The other layers, Metropolitan Victoria of Manchester, are fortunate in having one of the largest of X-ray experimenters in their vicinity. The work of Professor Bragg's students find a large part of their work in their extensive and well-equipped laboratories.

Technical Progress Demanded

I have dwelt on the discovery and development of X-rays, because in many respects this work typifies the kind of research which is expected to have an influence on the general trend of science and industry in England at the present time. Whereas on the Continent, especially in Germany, a great number of workers after the war became engaged in the new discovery, the X-ray workers devoted their efforts to the extension of the knowledge presented in physical nature. It is worth remarking that, since the new Government has taken power in Germany, the experiments are regarded there as of much greater importance than the experiments in this country as a "dreamer of dreams," whose work may be interesting in times of peace, but of little value at a time when technical progress is demanded to meet the national needs of the country. In England, too, the theoretical investigations of men of the rank of Dirac arose less extensively now than experimental discoveries. It is not too much to say that the theoretical physicist has had a harder time since the war. Perhaps the most notable example of this is the mental results yielded out of experiments in the comparative decline in higher theoretical physics. It is not too much to say that the theoretical physicist has had a harder time since the war. Perhaps the most notable example of this is the mental results yielded out of experiments in the comparative decline in higher theoretical physics.

England Spleening Up

At a meeting of scientists in London which I attended some time ago, the subject of the structure of the atom was discussed. It was read by Professor MacLennan of Toronto University. At the conclusion of the paper, Professor MacLennan said that he was not at all surprised at the phenomena which he had described, but that no doubt some theoretical physicists would be able to give a reason for their occurrence. Thereupon, Lord Rutherford rose and said that, in his opinion, the only reason for this was best advised to put forward his own theory, however simple, even if the more complex one in it was quite correct. He also said that he was suspicious that the theoretical physicist had it in his power to prove or disprove a whole lot of the success of theories such as wave-mechanics, the nucleus of the atom is still a very much unknown quantity of electrons and neutrons and possibly other elementary particles.

England Spleening Up

This does not mean that theoretical investigations are considered to be of little value. It is a matter of the economic and political condition of the present time demands rapid development of the sciences known as applied science. Now that the whole range of electromagnetic rays has been mapped out, it is not too much to say that the study of the properties of rays of such wave-length and of their interaction with matter in all its forms. It will be recalled only that there are still 188,000 miles of ordinary light, the near infra-red and ultra-violet rays, and the X-rays, gamma rays, and hard X-rays, gamma rays, soft and hard cosmic rays, not to mention massive particles, which are produced. Therefore, been largely diverted from the discovery of new rays to an investigation of their behavior in different circumstances.

Industrial concerns have been quick to realise that some of the new light shed on this aspect of rays may lead to applications of far-reaching consequences. We read of death-rays and rays that stop motor springs. These are cases of rays that are already known, but are being applied to specific purposes. Never has the link between science and industry in England been so close as at the present time. Nevertheless, it is felt that the universities in particular should pay still more attention to training research workers to a standard of the highest technical efficiency, so that they may be able to adapt themselves rapidly to new problems if they engage in industrial research. To link up science and industry more closely has been envisaged in the closer contact which is being demanded with ever greater insistence between the university and the life and activities of the present time.

MUST "INCREASE DOCTORS' PAY"

29 AUG. 1935

Way to Overcome Shortage HEAVIER DUTIES

(By a Correspondent) THE replies of the Attorney-General (Mr. Jeffries) in the Assembly to questions about the medical staff at the Adelaide Hospital call for some comment.

On Tuesday Mr. Jeffries is reported to have said that the first year's pay of resident surgeons did not differ materially from that paid in hospitals which were also teaching schools in New South Wales and Victoria. That statement is correct.

But on looking further into the matter, we find that house surgeons in other States have on an average 30 patients to look after. At the Adelaide Hospital the average number of patients attended by each house surgeon is about 15.

Thus it will be seen that house surgeons at the Adelaide Hospital are doing at least twice the work of those in Victoria and New South Wales.

AT HOSPITAL

Mr. Jeffries is reported to have said that there could not be a shortage of 28 resident doctors at the hospital, as there were not 28 resident doctors there when it was fully staffed. This statement might mean anything.

Furthermore, it is claimed that there will continue to be a shortage of recently graduated men while the Government persists in its attitude.

The report that the Acting Premier (Sir George Ritchie) has called to England to try to get doctors shows how far the Government is from an understanding of the true situation in the hospital.

One can only reiterate that suitable men are available here and can be kept here if granted better salaries and better conditions.

"DON'T REPEAT BLUNDER"

Instead of spending a large sum of public money in obtaining doctors from London, the Government should do more for the public to have the same offered in Adelaide. Perhaps they might be increased to the level of the best.

Incidentally, the annual report on the Adelaide Hospital shows that for the year ended December 31 last the number of patients was the highest in the history of the institution.

This shows very definitely that the hospital is having a greater call on it by the public to have the same staffed. It is the duty of the Government to see that the hospital is staffed on the ration question. Is it going to blunder in regard to the Adelaide Hospital?