

As regards the first, she is striving by every means to maintain her ascendancy. Not only have the great colour-producing concerns banded themselves together to work in common and pool their profits, they have also taken steps to assure themselves of a continued and, indeed, increased supply of the trained material upon which the ultimate success and development of their industry depend. This they have sought to further by the establishment of scholarships or bursaries, known as the Liebig bursaries, to be awarded to deserving young chemists who have graduated at the polytechnics, on condition that they serve as assistants to the professors and are trained in the work of research. The necessary capital of 2 million marks to found these bursaries has been entirely subscribed by the leading colour-makers. Similar action has been taken by the Technico-scientific Union, which acts as an intermediary between industry and the scientific departments of the universities and the polytechnics, and arranges for the investigation of special problems which the smaller or less wealthy industrial concerns may desire to have solved. There is also an organisation known as the "Society of Friends and Benefactors of the Rhenish University of Bonn," which seeks to make generally known the knowledge acquired during the war in the domains of agriculture, commerce, and industry, and to further their progress by the active collaboration of science and industry. These instances are remarkable as indicating that Germany is at length seeking to emancipate itself in educational matters from official thralldom. Hitherto efforts of this kind have been largely initiated or controlled by State authority. It is curious that whilst that country as the result of war-experience is moving towards a more democratic control in this matter, our own action in national educational effort as the outcome of the same experience tends more and more towards bureaucratic direction.

The Stassfurt potash deposits are, no doubt, a great German asset. Prof. Ostwald, indeed, has declared that it rests with Germany to decide if in the future the world is to be nourished or starved. Four years' experience will, however, convince most people that the learned professor's assertion is on a par with much of the rodomontade to which he has accustomed us. There are many signs that the German potash monopoly will be broken, and, as Mr. Kenneth Chance has shown in the paper which he read at the recent annual meeting of the Society of Chemical Industry, the production of potash in this country is far from being an insoluble problem. With the passing of Alsace to France, Germany's control of the main supply will be jeopardised. Moreover, there are other untapped sources throughout the world. It has been asserted that the chance of finding soluble potash in British geological deposits is at least as great as that of discovering mineral oil. What is wanted is a systematic scheme of exploration which has never yet been attempted. There is no *a priori* reason why the conditions

which have led to the creation of the German deposits should be confined to that country. It seems only yesterday that such deposits were discovered in Alsace, and what has happened in Alsace may well be found to have occurred elsewhere.

DR. HENRY DYER.

WITH the death of Dr. Henry Dyer on September 25, there passes from our midst, at the age of seventy, one whose name will ever be associated with the rise of Japan as an industrial Power. He had barely finished his distinguished student career in the University of Glasgow when, on the recommendation of Prof. Macquorn Rankine, he was appointed principal of the newly constituted Kōbu Daigakko or College of Engineering in Tokyo. This was in 1872, when he was only twenty-four years of age. An account of the college in these early days will be found in NATURE, vol. xvi., p. 44 (May, 1877), and its marked success as an educational institution up to the date of its amalgamation in 1886 with the Teikoku Daigaku or Imperial University of Tokyo was an eloquent tribute to the clearness of purpose and the organising skill of its first principal.

In considering the part Dyer played in this great venture we should bear in mind not only his own direct work, but also the remarkable staff of young professors he gathered round him. Most of these he outlived, such as Ayrton, the electrician; Edward Divers, the chemist; John Milne, the seismologist; and C. D. West, the engineer, a man of the wide culture so characteristic of the graduates of Trinity College, Dublin. Prof. John Perry and Prof. Thomas Alexander are still with us, as are also two of the professors of English, the Rev. W. G. Dixon, now of Dunedin, and Prof. J. M. Dixon, of the University of South California, Los Angeles. The inclusion of English as an essential subject of study in the engineering curriculum showed the far-sighted policy of the early organisers of the college. From within its walls there went forth a great body of graduates to whom English was almost a second mother tongue, so well were they trained in the use of our idiom and in the knowledge of our best books. Many of these graduates held important Government posts, and their influence must have been considerable in shaping Japan's destinies.

After ten years of strenuous work Henry Dyer retired from the principalship and settled in Glasgow, where he soon identified himself with progressive educational developments. He threw himself with characteristic ardour into the organisation of what is now the Royal Technical College, of which he was a life governor. He became a member of the Glasgow School Board in 1891, and had acted as chairman since 1914. He was particularly interested in the work of the continuation classes and in the difficult problems of industrial reconstruction and education. As deputy-chairman of the Board of Conciliation and Arbitration of the Manufactured

Steel Trades of the West of Scotland, he enjoyed the confidence of both masters and men. He also took an active interest in the West of Scotland branch of the British Astronomical Association, of which he was honorary vice-president at the time of his death.

In 1910 Dr. Dyer received the honorary degree of LL.D. from the University of Glasgow, and in 1915 the degree of Doctor of Engineering from Japan. In 1882 he was decorated with the Japanese Order of the Rising Sun (Class III.), and a few years later with the Order of the Sacred Treasure (Class II.).

In addition to many contributions to periodical literature, Dr. Dyer wrote a number of important books, of which the best known is "Dai Nippon, the Britain of the East." In this volume he traces the rise and progress of Japan in economics, industries, and education, very naturally devoting considerable attention to the work of his own College of Engineering.

His other published works deal with such questions as science teaching in schools, education and national life, the evolution of history, and the like.

Dr. Dyer's many friends and associates can look back upon the record of a life well spent in the highest educational activities and in furthering the interests of the community among whom he lived. His was a strong personality actuated by a single-hearted enthusiasm in the cause of scientific training.

C. G. K.

NOTES.

WE learn with much satisfaction that the report of the death of the distinguished philosopher, M. Emile Boutroux, member of the Institute of France and of the French Academy, is incorrect.

IN the *Times* for October 5 there appears a short notice concerning the latest Halberstadt biplane, quoting a report on this machine prepared by the Technical Department of the Air Ministry. It is exceedingly gratifying to read that the performance of the above machine is poor when compared with our own machines of a similar class, especially when it is remembered that the particular aeroplane on which the report is based was captured so late as last June, and bears the date April 14, 1918, stamped on various parts. Some figures relating to speed and climb are given in the *Times*, but, unfortunately, the weight of the machine is not stated, so that their full significance is not apparent. The speed is given as ninety-seven miles an hour at 10,000 ft. with the 180-h.p. Mercedes engine, and the times given for climbs to various heights indicate a climbing speed of about 600 ft per minute at ground-level. If the weight of the machine were 2700 lb., a likely figure for such an aeroplane, one would expect a climb in the neighbourhood of 1000 ft. per minute at ground-level with the above horse-power, and this rough figure gives some idea of the relative merits of our own two-seater fighters and this recent German machine. The Halberstadt is considered easy to fly and quick in manoeuvrability, but these qualities cannot be used to the best advantage in a machine the speed and climb of which are low. The report in question is of great interest, since it establishes in a very direct manner the superiority of our machines over

those of the enemy, and there seems little doubt that this superiority, once definitely gained, will be easily maintained in the future.

THE RIGHT HON. H. A. L. FISHER, President of the Board of Education, will preside at a meeting to be held at the Royal Society of Arts on Monday, October 28, at 3 p.m., when a scheme for the promotion of industrial art will be submitted for consideration. Amongst those who have consented to speak are Lord Leverhulme, Sir Charles Allom, Sir Woodman Burbidge, Mr. Kenneth Lee, Sir William McCormick, Mr. Gordon Selfridge, and Sir Frank Warner. The prime objects of the scheme are:—(1) To encourage and co-ordinate movements towards the development and improvement of industrial art, with the view of maintaining for the trade of the British Empire its position in the markets of the world; (2) to co-operate with Government Departments and other bodies in promoting exhibitions, and in particular with the Government scheme for a British Institute of Industrial Art; and (3) to initiate and encourage research, experimental and other work germane to the objects above indicated, to award grants for conducting such work, and to co-operate, whenever possible, with Government and other institutions founded for such purposes.

AN Exhibition of New British and "Key" Industries, organised by the Industrial Section of the Tariff Reform League, was opened at the Central Hall, Westminster, on October 7, and will remain open until October 22, when the intention is to take it to Manchester and other large provincial centres of population. The exhibition is on a smaller scale than that recently organised at King's College by the British Science Guild, to which appreciative reference is made by Mr. H. J. Mackinder in his introduction to the official handbook, and little is included which was not represented in that exhibition. On the scientific side, therefore, there is nothing to record which has not been described already in these columns. Among the exhibits of new or revived British industries are flags, Christmas cards, dolls, toys, puzzles, indoor games, and picture-frame mouldings, which were outside the field of the British Scientific Products Exhibition. The handbook, price 1s. net, contains instructive articles upon the occurrence and uses of metals and other substances essential to the existence of many great industries, and controlled by enemy influence before the outbreak of the war. The fact that we were dependent upon Germany for many products and appliances which we were fully capable of manufacturing ourselves is beyond dispute, but it must remain a matter of opinion as to whether the conclusions of the Tariff Reform League as to its chief cause are correct. The exhibition is, however, an enlightening display of national scientific and industrial effort, and as admission is free there will no doubt be many visitors to it.

DR. ADDISON, Minister of Reconstruction, in his inaugural address at the opening of the Pharmaceutical Society's School of Pharmacy on Wednesday of last week, laid stress upon the need for co-ordination of scientific knowledge and for a thorough and scientific treatment of facts and inquiries. The greatest danger before and during the war were German organisation, training, and method, especially in the application of physical science; to safeguard ourselves in the future it was necessary to provide better training and better conditions of life. At the outbreak of war we were faced with difficulties consequent upon our dependence on Germany for the supply of a large number of medicinal chemicals, as