

APPLIED SCIENCE.

In delivering the presidential address at the meeting of the British Association yesterday the Prince of Wales had a large subject on which to discourse. It would be impossible to overestimate the importance of applied science. The Prince, who has a keen eye for the practical side of things, was able to base many of the conclusions he had arrived at on his own personal observations. His extensive travels provided him with the opportunity of witnessing for himself many of the advantages which have accrued from the union of science with industry and commerce. These are so numerous that it would be impossible to catalogue them all. They are in operation in every department of the world's activities, and present-day civilisation without them would be an impossibility. Many have become so familiar as to be commonplace, and it is only when attention is directed by historical students to the various stages in their evolution, and to the disabilities they have removed, that their true value is realised. Even such a familiar article of everyday household use as the ordinary lucifer match, to whose value Dr. Russell Wallace has borne testimony, supplies an impressive illustration of the value of applied science. A generation which depended on the old-fashioned flint and steel to produce a light might well gaze in astonishment at the ease with which people of to-day accomplish the same result without waste of time and the irritation occasioned by the older method, which in itself was an improvement on the more primitive system of friction. Things of common concern have felt the magic touch of science.

In modern times the practical application of knowledge won by long and patient research has added enormously to material wealth. Science which is purely theoretical has its legitimate place, and may be of absorbing interest to the initiated, but the great mass of humanity desire to know what the utility of any particular discovery will be. A search into the origin of the cosmos, or the origin of species, interests the few, but a discovery which will aid production to any appreciable extent affects the race in an intimate way. The Prince of Wales was very happy in his reference to Michael Faraday, the brilliant investigator who laid the foundations of electrical science which during the last half century or more has revolutionised the industrial world and added to the amenities of life in many directions. His Royal Highness was also able to supply an impressive concrete illustration of the extent to which modern industry is indebted to science by his reference to the large army of workers in Great Britain "living on the brains of Faraday" in consequence of his discovery of benzine, the basis of the present-day dyeing industry. But while the magnitude of the operations directly traceable to the patient research of one man of genius serves well as an object lesson, it also illustrates what has taken place, perhaps on a smaller scale, in connection with every kind of production. Faraday is but one, although perhaps the most illustrious, of the men comprised in the great army of patient, and often silent and unobtrusive, workers in this cause. Many of the far-reaching discoveries have been made possible by men who have never come into the limelight, but who have nevertheless done the spade work which has prepared the way for brilliant achievements. The kingdom of knowledge has been built up stone by stone, and the great reward of thousands of workers has been the consciousness that they have "contributed their bit." But there have arisen from time to time men of conspicuous genius who have opened wide the gates to some particular department, or have corrected and co-ordinated the work of their predecessors and given to scientific enterprise a definite direction. Such names as Newton, Pasteur, Darwin, Kelvin, Crookes, Rontgen, and a host of others, conjure up visions of mighty conquests in the realm of knowledge, and are synonymous with its outstanding landmarks.

The forward movement has become more rapid and more aggressive in recent times. This is due partly to the impetus which it has gathered as the result of its own achievements. Every new acquisition of knowledge prepares the way for a further advance. Every secret wrested from Nature suggests the existence of some related secret, or of something behind the fact discovered which is awaiting further investigation. And the instruments with which the scientist works have been wonderfully improved. Astronomy now boasts telescopes of mammoth dimensions, the microscope is a marvellous instrument, while test tubes of different kinds, and electric appliances have been brought to a high degree of perfection. Photography, too, plays an important part in the equipment of the worker in several fields of research. Science has come into its own in these later years. It has vindicated the high claims made on its behalf. It is no longer the hobby of a few savants. It has won popularity by the service it has rendered to the world. The Prince was able to touch on a number of triumphs. Medicine, of course, looms large in any attempt to estimate its achievements. But the homely farm, the orchard, the dairy are all debtors to scientific workers. And primary producers owe much to the application of methods evolved by scientists for the preservation as well for the rearing of their crops, and present indications justify the hope that the near future will witness important developments in low temperature food preservation. It is gratifying that his Royal Highness should be able to point to so many British achievements, and to such extensive fields of work in Great Britain. It is characteristic of the temperament of the people that they should plot on, making one discovery after another, and adding continually to the sum total of the world's knowledge. While England has much of which she might boast, the Dominions also have records of which they have good reason to be proud. The Prince made reference to two new wheats produced by Sir Roland Biffen at the plant-breeding institute at Cambridge, and mentioned that the extra yield had already repaid the whole expenditure upon agricultural research. That is a splendid record, and in this connection Australia might put forward well-grounded claims to recognition. Our farmers have been confronted with some tough problems, and amongst the successes, which are by no means insignificant, won by workers in this part of the world the production of new varieties of wheat suitable to our climate and soil, especially rust-resisting kinds, have an important place. One of the advantages of meetings of such bodies as the British Association is that men engaged in attempts to solve the many problems demanding attention are brought into contact with each other, and are able to take stock of the victories already won, and to indicate the directions in which new triumphs may reasonably be expected. The field of operations is illimitable, and the address of the Prince of Wales should fire with new enthusiasm many of the workers in it.

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ADU. 4.8.26.

SCIENCE AND THE STATE.

BRITISH ASSOCIATION.

PRINCE AS PRESIDENT.

The Prince of Wales delivered the presidential address at the meeting of the British Association at Oxford on Tuesday, dealing with the importance of applied science to the nation.

LONDON, August 3.

To-day the Prince of Wales, delivering the presidential address at the meeting of the British Association at Oxford, after an apology for addressing such an audience of experts, said he proposed to recall the practical application of science which he had seen in peace and war during his world and other tours, and particularly the aid which the State was rendering to scientific research. The present debt which society owed to science could be estimated from the fact that 2,000,000 workers in Great Britain to-day were liv-

ing on the brains of Faraday in consequence of Faraday's discovery of benzine which was the basis of the dyeing industry, and the discovery of the laws of electrolysis. The establishment of the Development Commission of 1908 had greatly



The Prince of Wales.

strengthened the inter-action between science and the State. The Rothamsted station had now expanded to cover the whole field of the nutrition of and disease in plants.

His Royal Highness dealt with the work of this institute, and its relation to various aspects of agriculture. He said it was not only training their own farmers, but was forming a training ground for the agricultural experts required in the Dominions, India, and the colonies, which no longer had to look abroad for such experts. At the plant-breeding institute at Cambridge, Sir Roland Biffen had provided two new wheats, of which the extra yield alone had already repaid the whole of the expenditure upon agricultural research. Since this institute was established investigations had been conducted into potato disease, diseases of fruit trees, and milk, and also a most valuable reform instituted in the rationing of cows, which alone had increased the yield of each cow by from 100 to 200 gallons a year. The co-ordination of medical research had been of the greatest use, and he quoted the instance of Canada's gift of insulin to humanity and the discovery of vitamins. The committee of the Privy Council for Scientific and Industrial Research now consisted of eleven boards, with which 36 committees were affiliated. There were also 20 industrial research associations under the supervision of the Advisory Council. The Food Investigation Board directed other committees concerning the preservation of meat, fruit, and vegetables, while the National Physical Laboratory was considering refrigerating problems on Australian ships along with the Low Temperature Research Station at Cambridge. This new attitude of the State towards science was bearing fine fruit in the Dominions. Nothing but good could come from the contact between the overseas workers and the British workers. The British Association sought to develop this. Not the least desirable feature of the present meeting of the association at Oxford was the large number of distinguished guests attracted from overseas, to whom he extended the most cordial welcome.

generally agreed that he is a worthy successor to the late Mr. Jacomb-Hood. Mr. Stokes is the eldest son of the Rev. Frank H. Stokes, of the Diocese of Adelaide, and a grandson of the late General Sir John Stokes, K.C.B., R.E. Born near Adelaide 46 years ago, the new master of Queen's School was educated at St. Peter's College. He took



Mr. Edward Stokes, M.A.

who has bought Queen's School and will assume control as head master after the close of the term on August 27.

his Bachelor of Arts degree at the University of Adelaide, and his Master of Arts degree at Magdalen College, Oxford, where he was awarded a special exhibition to pursue research work.

His long experience in teaching included the position of boarding house master at Queen's School in 1902-3, head science master at King William College, Isle of Man; head master of the Government High School, Barilly, India; and inspector of schools in the Rohilkhand and Allahabad Divisions of the United Provinces of India. He resigned from Indian service in 1922 on the receipt of a cable message from the Rev. J. F. K. Bickersteth (head master of St. Peter's College) offering him the position of master in charge of the preparatory section of his old school. He has held that position since 1923.

While on long leave in Britain Mr. Stokes inspected many of the great public schools, including Rugby, Harrow, Winchester, and Westminster, as well as a number of the best London schools under the guidance of the Board of Education.

Mr. Stokes takes a keen interest in sport. He has played most games, and was a member of the first lacrosse team at Oxford University. In India he had much military training and passed all ranks from trooper to lieutenant in the United Province Volunteer Horse, subsequently qualifying as captain. His wife is a daughter of Mr. Willett Ram, of Halesworth, Suffolk, England, and they have four children.

Queen's School and the boarding house will be renovated before Mr. Stokes assumes control, and an innovation will be the establishment of a class for children of from seven to nine years of age. For this purpose a competent mistress has been engaged.

ADU. 5.8.26

THE UNIVERSITY JUBILEE.

At a meeting of the Council of Churches on Tuesday the following resolution was carried unanimously:—"That in the opinion of the council the action of the University in handing over the control of the Jubilee thanksgiving services to the head of one denomination is a serious breach of the principle of religious equality embodied in the University statutes and in the laws of the State. The council is the more surprised and aggrieved by this action, inasmuch as the University was founded and established largely by the wealth and generosity of eminent members of the non-episcopal churches. It recognises the courtesy of the Bishop of Adelaide in asking our president to take some small part in the service, but we cannot regard this as affecting the principle at stake."

News. 4.8.26.

QUEEN'S SCHOOL SOLD

Bought by Mr. Edward Stokes

WILL UPHOLD TRADITIONS

Mr. Edward Stokes, M.A. (master-in-charge of the Preparatory School, St. Peter's College), has purchased Queen's School, North Adelaide. He will assume control as head master at the expiration of the current term on August 27.

Following the recent death of Mr. R. G. Jacomb-Hood, M.A., who for 30 years had been proprietor and head master, there has been great interest in educational circles regarding his successor. As a private school for boys, the college enjoys fine traditions, and has an enviable record. Many of the leading professional and business men of Adelaide are numbered among its old scholars, and to their early prowess the school XI shields bear witness. Mr. Stokes will preserve the fine traditions, and it is