

to write the treatise he could have done so well.

Among Sir John's many official appointments were that of professor-superintendent of the Brown Institution, Wandsworth, in his comparatively early life; member of the Mosley Commission (1904) to study educational methods in the United States of North America, for which he reported on the relations of hospitals to medical schools, clinical laboratories, and the teaching of medical pathology; senior medical adviser to the Colonial Office, the Medical Department of the Admiralty, and the Grocers' Company; chairman of University College Committee; senator of the University of London; president of the London and Counties Medical Protection Society, and a member or chairman of numerous committees. Most conscientious, un-

obtrusively modest and endowed with a marvellous memory, he was an ideal chairman, and nowhere was this better shown than when president of the Royal College of Physicians of London (1926-31). It may well be said of him as a man that he earned "honour, love, obedience, troops of friends".

HUMPHRY ROLLESTON.

WE regret to announce the following deaths:

Prof. Auguste Marie, professor of microbiology in the Institut Pasteur, Paris, known for his work on rabies, cancer and tetanus, on March 30, aged seventy years.

Mr. J. Milton Offord, president of the Quekett Microscopical Club, on May 4, aged seventy-four years.

News and Views

The Royal Jubilee Broadcast

THE birth and development of modern radio broadcasting are not least among the items of progress in our civilisation, which have taken place during the twenty-five year period the termination of which was commemorated last Monday by the Royal Jubilee celebrations. An excellent example of the present possibilities of broadcasting technique was provided on this occasion by the special programme from the B.B.C. stations, which enabled listeners in all parts of the Empire to visualise the scene in London, including the crowds, decorations and the Royal procession, and to participate in the thanksgiving service held in St. Paul's Cathedral. The issue of the *Radio Times* of May 3 contains an illustrated description by the Outside Broadcast Director of the B.B.C. of the arrangements which were made to carry out this programme. Special microphones, with local control points, were erected at Temple Bar, Ludgate Circus and on the front of St. Paul's Cathedral, from which was given a commentary on the Royal procession as it approached St. Paul's; while in the Cathedral itself, seventeen microphone circuits were provided for the adequate handling of the thanksgiving service. The suitable mixing of the various portions of the programme received along the total of twenty-seven circuits was carried out by one man, who was situated in the temporary control room erected over one of the vestries in the north-east corner of the Cathedral. This control room was connected to Broadcasting House by six outgoing circuits, two of which were utilised by a foreign commentator.

It says much for the foresight with which the arrangements were made and for the thoroughness with which each person concerned carried out his work, that the programme was accomplished without a fault of any description. The whole network of interconnecting cables was entirely underground and was provided by Post Office engineers; at no point inside or outside St. Paul's were there any visible

signs of broadcasting. As a broadcast of sound effects, interspersed with brief commentaries, the programme was satisfactory. Much, however, was inevitably left to the imagination in order to visualise the glamour and splendour of the scene which was being portrayed. Is it too much to hope that by the next occasion when a similar ceremony is to be broadcast, the sound picture will be supplemented by a vision programme, perhaps even in full natural colour?

Association of British Chemical Manufacturers

JUBILEES are occasions of rejoicing and congratulation, but they provide us also with opportunities for taking stock both of our national resources and of the use we are making of them; so that when, after due examination and consideration, the celebrations are followed by renewed resolutions and by more fully informed and co-operative effort, they can fairly claim to have made a contribution of more than passing value to our national progress. Many organisations, national and sectional; political, ecclesiastical and industrial; philanthropic and learned societies, and indeed societies representing every phase of corporate life, will in 1935 be concerned to view with a critical eye their progress throughout the years of His Majesty's reign. In so far as they can show that their attempts to make the world a better place to live in have been honest, sensible and attended by a reasonable measure of success, they will receive a meed of applause; in so far as they discover how better to carry out the purposes for which they were brought into existence, they will equally merit the approval of sympathisers. The year 1935 is one in which chemical organisations in Great Britain will take decisions of exceptional significance. They have long been considering how they can more adequately serve their science and more effectively promote its application for the benefit and prosperity of the community. Proposals which are now under consideration have been put forward with that end in view. One of the

organisations concerned, the Association of British Chemical Manufacturers, has recently published a brief survey of its work since its formation in 1916.

THE Association of British Chemical Manufacturers, which now has a membership roll of 117 firms representing a capital of more than £200,000,000, originated from the proposals of a committee representing the Chemical Society, the Society of Dyers and Colourists, and the Society of Chemical Industry, called at the suggestion of the first-named to consider the best methods of promoting co-operation between British chemical manufacturers. Additional objects served by the Association are: to provide British chemical industry with a medium for the expression of its views; to further technical organisation and promote industrial research; to facilitate the development and extension of British industries by keeping in touch with progress in chemical knowledge and practice; and to encourage closer co-operation between chemical manufacturers and the various universities and technical colleges. These desirable objects have been steadily borne in mind by the Association, the annual reports of which show a long record of achievement, and it has been prominently associated with all movements of importance since its formation. From its early days, the Association has maintained a service to keep members informed of the import and other statistics essential to their work, to keep them apprised of all directions in which new manufactures are needed, and yet at the same time to prevent useless overlapping by unnecessary duplication of effort. The Association is closely concerned with questions of safety in chemical works, with matters arising out of the Import Duties Act, with negotiations leading to new commercial treaties with foreign countries, with the incidence of acts such as the Dyestuffs Act and the Patents and Designs Act, with transport and with exhibitions. The monthly summary of information on chemical trade can be purchased by non-members.

Jubilee Exhibition at the Science Museum

To mark the occasion of His Majesty's Silver Jubilee, a pictorial exhibit illustrating the more outstanding inventions and conspicuous developments of the past twenty-five years has been arranged at the Science Museum, South Kensington. This exhibition was opened to the public on May 1 and will remain on view during the whole of the month. The main advances in the pure sciences, astronomy, mathematics, physics, chemistry, meteorology and geophysics are illustrated, together with their more important applications; for example, photographs are shown of the planet Pluto (which was discovered in 1930), modern methods of upper air investigations, radio-gramophones, 'talking pictures' equipment, infra-red photography and modern methods of prospecting. Of special interest is the series of photographs showing the rapid advances which have recently been made in our knowledge of the constitution of the atom, and the structure of the atomic nucleus. Progress of chemical industry is shown to include many important developments such as the

low-temperature carbonisation of coal, the manufacture of insulin, artificial silk and plastic products; while in the case of glass manufacture, reference is made to the improvements resulting from the introduction of machine processes and the influence on the glass industry of the widespread use of the motor-car. Among other subjects represented may be mentioned the development of aircraft, ships, locomotives, motor-vehicles, steam turbines, oil and marine engines, while the advances in electrical power and communication are illustrated by modern electric power stations, automatic telephones, radio-communication and television.

Award of Kelvin Medal to Sir Ambrose Fleming

THE Kelvin Medal of the Institution of Civil Engineers, which is awarded triennially as a mark of distinction in engineering work or investigation of the kinds with which Lord Kelvin was especially identified, was presented to Sir Ambrose Fleming by Sir Kingsley Wood, Postmaster-General, on May 7. Referring to our dependence on the universities for the inception of new scientific methods and scientific knowledge, Sir Kingsley said that thanks are due to Sir Ambrose not only for his own contributions, but also for the inspiration he has given to generations of students, which have spread over the world in ever-widening circles like the wireless waves themselves. Sir Ambrose was one of those pioneers in the science of radio, who worked under both physical and financial difficulties, and yet succeeded in placing at our disposal a means of communication of thought, sound and vision. Broadcasting may well be one of the greatest factors in drawing together the nations of the world. Sir Kingsley said that mass production in research produces results, but at a relatively higher cost than the research of inspired and gifted individuals, which has hitherto characterised the majority of the investigations carried out in Great Britain.

Viruses and Heterogenesis

THE definition and nature of life have been favourite subjects for ancient and modern discussion. Sir Henry Dale, armed with many recent exact data, stated in the Huxley Memorial Lecture on "Viruses and Heterogenesis", delivered at the Imperial College of Science on May 2 (London: Macmillan and Co., Ltd. 1s. net), the dilemma which confronts those who attempt to decide whether all the viruses which cause disease are self-propagating micro-organisms or whether some of them do not originate from the tissues of the host. Admitting that their minute size is perhaps the most important obstacle to accepting the smallest viruses as frankly living, he pointed out that there is an unbroken series from a virus of about the same size as the smallest bacteria with a diameter of 750 μ to the virus of poliomyelitis estimated at 10 μ , which approaches the size of a protein molecule; the diameter of a molecule of egg-albumin has been calculated as 4.33 μ (1 μ = one millionth of a millimetre). The long category of viruses has several