

1870 he acted twice as private assistant to Sir James Paget, several of whose works he afterwards edited. From 1873 until 1891, when he became full surgeon, he served as assistant surgeon to St. Bartholomew's Hospital, where he lectured on anatomy, practical surgery and orthopædics. In 1903 he was appointed professor of surgery at Cambridge in succession to Sir George Murray Humphry, who had died in 1896, and in 1907 succeeded Dr. Alexander Hill as master of Downing College. He was the author of "Diseases of the Joints" (1886), which went through three editions and was translated into German, "Clinical Lectures and Essays" (1902) and numerous contributions to *St. Bartholomew's Hospital Reports*. Besides the distinctions already mentioned, Marsh was an honorary fellow of the Royal Academy of Medicine in Ireland, president of the Clinical Society of London and a corresponding member of the Orthopædic Society of New York. He died on June 24, 1915. A sympathetic obituary notice by Sir D'Arcy Power, accompanied by his portrait, appeared in *St. Bartholomew's Hospital Reports* (51, 1; 1915).

The Bastardy (Blood Tests) Bill

It is to be hoped that the Bastardy (Blood Tests) Bill, which was given its second reading after a debate in the House of Lords on February 8 (*NATURE*, Feb. 18, 294), will duly pass into law. The use of blood group tests has already become a common practice in several other countries, notably Sweden, Germany and the United States. The Bill provides that the Lord Chancellor may make rules under the Act, governing the taking, identifying and posting of blood samples, the form of certificate to be given, the qualifications of the 'approved persons' who make the tests, and the scale of fees payable. It may be pointed out that the *M* and *N* tests require much more skill in determination than the *A* and *B*. It would therefore seem desirable for a local practitioner to take the samples as arranged and send them to one of a very limited number of experts who would make the actual tests. The Galton Laboratory is one of the very few places where the *M* and *N* as well as the *A* and *B* tests are constantly being made as a routine operation. In Denmark, a Government laboratory has been established for the purpose, where the tests are made for a small charge. Probably a similar arrangement would be best for Great Britain.

Television in Cinemas

THE practical application of television moved a step forward on February 23, when a view of the whole progress of the British light-weight boxing championship was transmitted from the Harringay arena. On this occasion, for the first time, the television programme was relayed to three cinema theatres in the West End of London, where the public had paid for admission. A report in *The Times* states that two of these theatres used Baird apparatus, while the third used the Scophony system. These cinemas became in effect overflow meeting places, where those unable to watch the fight in the arena could still follow its progress in black and white

pictures; and the view so provided on a fifteen foot screen was the equivalent of a ring-side seat. At the transmitting end, two cameras were used, one giving a general view of the ring with the spectators scarcely visible in the surrounding darkness, while the other gave a close-up view of the two boxers. The latter was used most of the time and enabled viewers to watch the detailed progress of the contest. With the exception of one or two occasions, when there appeared to be a loss of synchronism in the transmitted pictures, the apparatus worked quite satisfactorily, and the accompanying running commentary was up to the usual high standard for sound broadcasting. The successful transmission of this fight demonstrated that such an event is very suited to television, and that the inevitable technical difficulties of relaying the programme to cinemas have been largely overcome. As a result, according to a further announcement in *The Times*, Baird television apparatus is to be installed in some 350 cinemas controlled by the Gaumont-British Picture Corporation.

University of Birmingham: Annual Report

IN the report of the Council which was presented to the Court of Governors at its annual meeting on February 23, reference is made to two recent benefactions, namely, one of £10,000 by Sir Charles Hyde and the other of £2,000 by the Pro-Chancellor and Mrs. Barrow. These were given as peace thank-offerings. Sir Charles Hyde's gift, to be applied to a purpose chosen by the Prime Minister, is to be known as the Neville Chamberlain Physical Fitness Fund, and the income is to be used towards the maintenance of the University's scheme for physical education. The contribution of Mr. and Mrs. Barrow is to be added to the Medical School building fund. Mrs. Ellen M. Parrott has given £500 in memory of her late husband, to be known as the T. H. Parrott Geological Research Fund, for "advancement of research in Geology". Dr. and Mrs. Edward Cadbury, who recently provided funds for the building of the St. Francis Hall, have given a further sum of £3,000, the income of which is to be used for the maintenance of the Hall. As part of the scheme for physical education, a gymnasium (with ancillary rooms and three squash courts and one fives court) is to be built at a cost of £15,000, of which £10,000 has been promised by the University Grants Committee and £5,000 by a private benefactor. Funds for the establishment of a department for research into mental diseases in the new building of the Medical School have been guaranteed for a number of years. The laboratories are now occupied, and Dr. Stanley Barnes has been appointed honorary director of mental diseases research, with Dr. F. A. Pickworth as senior research officer. Several investigations into cancer, financed by the Local Committee of the British Empire Cancer Campaign, are being carried out in the new Medical School. The Poynting Memorial Lecture is to be given on March 7 in the Physics Department by Dr. H. B. G. Casimir, of Leyden, on "The Approach to the Absolute Zero of Temperature, and the Properties of Matter at the

Lowest Attainable Temperatures". The Huxley Lecture is to be given on March 16 at the University, Edmund Street, by Sir Albert Seward on "Aspects of Evolution in the Plant World".

Vocational Rehabilitation of the Physically Disabled

A STUDY of the vocational rehabilitation of the physically disabled has been prepared for the Advisory Committee on Education by Lloyd E. Blanch (U.S. Government Printing Office, Staff Study No. 9). The study reviews the development, status and problems of the rehabilitation service inaugurated in July 1920 by the Federal Government, under which up to June 30, 1937, 98,690 persons had been rehabilitated. In the year ended June 30, 1937, vocational rehabilitation was completed for 8,691 men and 2,400 women, about 60 per cent of whom received some training. Maintenance was provided or secured for 948 while they were undergoing rehabilitation. Of those rehabilitated, 64 per cent were less than thirty-one years of age and only 8 per cent were more than fifty. Most of those rehabilitated (61 per cent) were without dependants, but 26 per cent had two or more dependants. Orthopaedic disabilities handicapped 75 per cent of those rehabilitated. The study suggests that 150,000 persons each year acquire permanent disabilities sufficiently serious to prevent them from returning to work without assistance. About 50,000 of these can be employed normally after rehabilitation; 75,000 can be employed only in sheltered workshop conditions, while the remaining 25,000 can only be employed, if at all, in their homes. Accordingly the present programme only rehabilitates about 20 per cent of the physically disabled who need such assistance. The study concludes that a permanent Federal programme is required and insists on the importance of Federal administration and of the co-ordination of Federal services which affect vocational rehabilitation. Reference is also made to special services for the blind and to the need for an extended programme, including the provision of living expenses during rehabilitation.

The New Deal in the United States

IN *Fact* of October 1938, under the title "Roosevelt and his New Deal", Stephen K. Bailey gives a concise account of the achievements of the New Deal up to the end of September, which indicates not merely the problems which faced Roosevelt but also the background of social and economic conflict against which they have to be assessed. In successive chapters, the attempts made to meet the needs of the farmer, under the Agricultural Adjustment Administration and the Farm Credit Administration, etc., the industrialist, under the National Industrial Recovery Act and the Public Works Administration, as well as the needs of labour and the unemployment situation by the Federal Relief Administration, are surveyed. The complexity of the situation is clearly indicated as well as the way in which the conflict between big business interests and labour has been intensified, the difficulties which the Federation has to overcome in the direction of social reform, the establishment of a really sound banking system, and the problem

of the Supreme Court. Mr. Bailey hazards no guess as to the outcome of the present situation: the successes and failures of the New Deal are impartially indicated as well as some of the reasons for the vagaries of American foreign policy; but his account, whether or not it is used as an introduction to further study, should at least contribute to the sympathetic understanding of the American situation, although the rather sombre picture he gives of the relation between employers and employees and of the attitude of the former to social reform does not encourage optimism.

Selection of Sizes of Timber Beams

THE determination of the suitable breadth and depth of a timber beam to carry a given load involves consideration of strength, of stiffness, and of the capacity of the material to withstand the horizontal shear forces induced in it by the transverse loading. The calculations which these considerations necessitate can, however, be entirely eliminated by making use of a set of three charts recently published under the title "Charts for the Design of Timber Beams". These charts have been prepared by V. D. Limaye, officer-in-charge of the Timber Testing Station, Forest Research Institute, Dehra Dun, United Provinces. The first of them is designed to ensure that a beam of adequate strength is chosen. In it two nomographs are provided which, from the given load per square foot, span, and spacing, ascertain the total load carried by the beam. Then, by the drawing of four horizontal and vertical lines terminated by suitably placed diagonal lines which are embodied in the chart, the breadth and depth of a sufficiently strong beam are obtained. In most cases in which timber beams are used, it is necessary to restrict the deflection under load to certain specified limits, and stiffness has therefore to be arranged. This is done by means of the second chart, which enables the correct amount of adjustment to be made in the sizes already determined so that the required degree of stiffness is assured, and the process involves only the drawing of another set of horizontal and vertical lines. In the third chart a third series of horizontal and vertical lines leading to a final nomograph either confirms the horizontal shear strength as adequate or shows the correction required so that, in the end, the section evolved is suitable for its purpose from all points of view.

Magneto or Coil Ignition for Motor-Cars

F. R. HAIGH has recently compared the relative advantages of magneto and coil ignition used for generating the explosions which occur in motor-car engines (*Students' Quart. J. Inst. Elec. Eng.*, Dec.). Coil ignition was prominent on the early types of petrol engines, but magnetos appeared on the market and for a number of years prior to 1914 a Bosch magneto was regarded as the acme of perfection. About ten years ago coil ignition systems came to the front. The magneto is of great importance in aero work and is popular on racing-cars, but in motor-vehicles it has been almost entirely replaced by coil ignition. Modern coil ignition systems are