

News and Views

Prof. W. L. Bragg, O.B.E., F.R.S.

THE election of a successor to the late Lord Rutherford in the Cavendish chair of experimental physics in the University of Cambridge has been eagerly awaited by men of science all over the world, and it may safely be said that the appointment of Prof. William Lawrence Bragg, Director of the National Physical Laboratory, will give widespread satisfaction. Prof. Bragg shares with his father, Sir William Bragg, president of the Royal Society and director of the Royal Institution, the credit of founding the science of crystal structure which has grown in the last twenty-five years until it affects almost every branch of science, and dominates several. This work, a consequence of von Laue's discovery, was begun shortly after W. L. Bragg took his degree in 1912, and so rapid was the progress until the outbreak of the Great War that father and son were jointly awarded the Nobel Prize in Physics in 1915. During the War, Bragg made a great reputation as the leader and virtual creator of the British sound-ranging service which was generally admitted to have been consistently in advance of that of any other army. In this work, he showed both scientific and organizing abilities of the highest order, and led a group of men of whom many are famous in science to-day. Returning to Cambridge after the War, he was appointed in 1919 to succeed Rutherford in the Langworthy chair of physics in the University of Manchester, and proceeded to build up a school of workers with whose aid he disentangled crystal structures of ever-increasing complexity. His work on the silicates may be regarded as the culmination of this phase. Bragg possesses to a quite exceptional degree the power of thinking in the solid, and those who have worked under him speak with awe of his uncanny instinct for seeing the way in which a collection of atoms will group themselves.

IN recent years, Prof. Bragg has turned his attention to alloys, and by the application of the idea of co-operative action to the arrangement of atoms—the 'order-disorder' theory—has made important progress in this difficult, tangled subject. The study of atomic arrangements touches a surprising number of practical problems. Besides that of the invention of useful alloys, one may instance the agricultural properties of clays and recent developments in the study of proteins. It is possible, therefore, that under its new head the work of the Cavendish Laboratory may come into even closer contact with everyday life. It is only last year that Bragg was appointed director of the National Physical Laboratory (see NATURE, 139, 830; 1937), and it must have been difficult to face another change so soon; but the powers of organization and the personal qualities which made him so suitable a head for a large body of research workers will be of equal value at Cambridge. The Cavendish Laboratory is now so large that no one man can control it all closely, and

Bragg's tact and gift of leadership form the best possible assurance of the happy co-operation of its many groups of research workers, while his brilliant lectures and personal charm ensure his success as a teacher of undergraduates.

Prof. G. M. Bennett

PROF. G. M. BENNETT, Firth professor of chemistry in the University of Sheffield, has been appointed University professor of chemistry in King's College, London. Prof. Bennett's researches have been of varied character. Some, such as those concerning the synthesis of penthiane derivatives, the nature of the polymeric ethylene sulphides and the derivatives of monothioethyleneglycol have dealt with subjects of particular interest in the chemistry of organic sulphur compounds. Among others of more general interest, his study of the stereoisomerism of di- and tri-sulphoxides is noteworthy; this revealed the existence of isomeric di-sulphoxides derived from substances such as ethylene disulphide, thianthrene and the ethers of dithioethyleneglycol, and it culminated in the isolation of the five oxides derived from trimethylenetrissulphide, an absolute proof of their stereochemical structures being obtained from their relationships. Another group of Prof. Bennett's researches has dealt with the variation in reactivity of a group under the influence of others present in the molecule. These began with a quantitative study of the influence of sulphur or oxygen on the reactivity of halogens or of the hydroxy group separated from the former by a lengthening chain of saturated carbon. The data then obtained and their theoretical interpretation led to experiments dealing with the general influence of nuclear halogens on aromatic side-chain reactivity; these led to the view that the electro-meric effects of the halogens vary in intensity in an order which is opposite to that previously accepted. More recently, Prof. Bennett has made a study of organic molecular compounds and as a result has found justification for the view that in many of these the components are united by some form of a true valency bond. Adoption of this view led to the discovery that other electron-attracting groups such as cyanogen, methane sulphonyl, and chlorocarbonyl may serve instead of the usual nitro-group in one of the components.

Gustav Fritsch (1838-1927)

GUSTAV THEODOR FRITSCH, a pioneer in the physiology of the brain and one of the last great personalities of the classic period of German medicine, was born on March 5, 1838. He received his medical education at the Universities of Berlin, Breslau and Heidelberg under Helmholtz, Peters, Traube, Frerichs and Langenbeck among others, and qualified with a thesis on the central nervous system in 1862. He then spent three years in extensive foreign travel. In South Africa he made a study of the anatomy and physiology of the natives. He then visited Aden,

where he studied eclipses and passed on to Upper Egypt, where he made some important anthropological and ethnographical investigations. On his return to Germany he devoted himself to the study of diatoms and electric fishes, and in 1868 was made assistant to Prof. Reichert at the Berlin Anatomical Institute. His chief achievement was the discovery in 1870 in collaboration with Hitzig of the motor centres of the cerebral convex and their excitability by the faradic current, which formed one of the landmarks in the history of physiology. In 1908, at the age of seventy years, he published a remarkable work on the comparative racial morphology of the human retina, illustrated by plates prepared from photomicrographs, in which, as in scientific photography generally, he had always shown a keen interest. His death took place on June 12, 1927.

Native Policy in the Union of South Africa

THE arguments in favour of the transfer of the South African Protectorates to the Union of South Africa without further delay were stated ably and perspicuously by Mr. Lionel Curtis in his address to the Royal Empire Society on February 8. He pointed out that such a demand was inevitable on the formation of a National Government, which with its party is bound to consider how far the control it exercises in its domestic affairs, under the law as expressed in the Statute of Westminster, is effective. In such a survey, it is forced on their notice that the inhabitants of the Protectorates are dependent upon the Union territories for the sale of their produce and further a great proportion of them earn their living within the Union. Socially and economically the Protectorates, therefore, are integral parts of the Union. The relations of white to black lie at the root of all South African questions; and it is idle to tell the South African Government that it has been given complete control of its domestic interests so long as they lack control of areas, which, beyond dispute, are component parts of its social and economic community. Mr. Curtis then recited the changed conditions which have been brought about by the Balfour Memorandum and the Statute of Westminster, and argued that in view of that change it is no longer possible to meet the demand for transfer with the reply that it cannot take place until South Africa's native policy within the Union has conformed to British opinion. Not only is he not of the opinion that the interests of the natives throughout South Africa would be best served by withholding the transfer; but he also considers such a policy fraught with disaster. Noting the growth of a reaction against the prevailing opinion on native policy among young Afrikaners in the universities, he concluded by urging that the time is over-ripe for discussion of the transfer, consultation of the natives to form part of that discussion.

THE views expressed by Mr. Curtis have aroused no little criticism. This has served to indicate once more that there is a considerable body of opinion in Great Britain which attaches overwhelming importance to the obligation of the British Government to

carry out its pledges—pledges both to the Union of South Africa, as well as to the natives of the South African Protectorates. No one has ventured to suggest that the transfer should be delayed indefinitely; but on the other hand, it is certain that instructed opinion would favour decisively the view expressed by Lord Lugard that some further delay is desirable. It is, however, no less essential that, if there is to be further delay, it should be secured by such means as will avoid hardening public opinion, which is steadily growing in South Africa against the tendency towards a more liberal policy in native affairs. The number of advocates of what may be termed, for brevity, 'the anthropological approach' is increasing, and the influence of the universities in leavening public opinion by the objective, non-political and scientific study of a difficult social problem is becoming stronger. In the long run, this leaven is bound to tell; and time is in its favour. In the last resort, however, the solution lies with the Union Government. When its native policy becomes such that it is acceptable, not as is suggested to opinion in Great Britain, but to the natives of the Protectorates, and wins, if not their assent, at least not their active and stubborn opposition, the time for transfer will have come. The acerbity of the argument in favour of immediate transfer put forward by some of its supporters argues a knowledge that reference to the native population at the moment would meet with an unfavourable reply.

Closing Excavations at Maiden Castle, Dorchester

THERE is a dramatic touch in the discoveries of the fourth and final season of joint excavation by the Society of Antiquaries of London and the Dorset Natural History and Archæological Society on Maiden Castle, which in other circumstances it would be difficult to accept as entirely fortuitous. Dr. R. E. Mortimer Wheeler, in describing his recent finds on this site before the Society of Antiquaries on February 23, was able to give a detailed account of the final assault on, and dismantling of, the fortress by the enraged troops of Vespasian in A.D. 43, which was not merely an imaginative reconstruction derived from topographical observation, but was also a direct inference from the evidence of such archæological finds as projectiles from the barrage of the field train of artillery, which preceded the attack, the ruins of the platforms or towers protecting the approaches, and the ashes of the burnt hutments outside the walls, in which were found the burials, hurried and confused as if interment had taken place in the night following the battle, of the defenders, whose bodies had been savagely hacked by the attacking soldiers. Then followed the evidence of the period of British occupation of the site as an open town, until the inhabitants were removed to the neighbouring Roman city, recently founded, where Dorchester now stands, and Maiden Castle was left waste, except for an isolated burial of a Saxon warrior in the seventh century, which brings the story of Maiden Castle to a close. Though less dramatic, two discoveries relating to the neolithic period are almost equally important as