

course at the South Western (now Chelsea) Polytechnic and took his B.Sc. in geology in 1917. The following year his work on colour reproduction gained him the degree of M.Sc., this time in physics; but he returned to geology for his Ph.D. in 1937. His original work in geology was mainly in two widely separated fields. For many years he published a series of important papers, either alone or in collaboration, on the geomorphology of the Weald. He was, in particular, a strong advocate of the effects of the cold conditions of the Pleistocene period in moulding the characteristic land-forms of the South Downs. This work was part of the programme of the Weald Research Committee of the Geologists' Association. When the Committee was first formed in 1923, Dr. Bull was elected chairman, and he continued to hold this office until his death. A field meeting of the Association to the Swiss Alps in 1926 stimulated his interest in the problems of major

tectonics. He developed theories, notably on the importance of gravity as a geological agent, which were at first regarded critically in several quarters, but which slowly gained increasing recognition.

But this research work, in the leisure moments of a busy life, was not Dr. Bull's sole contribution to geology. He was president of the Geologists' Association during 1926-28, and for many years acted as one of its secretaries. He also served as treasurer of the Mineralogical and Palaeontological Societies. Owing to his own expert knowledge and the facilities of Bolt Court, his published papers were enriched by illustrations of the highest quality. In this field he never spared himself in helping others, and the extremely high standard of illustration reached in recent years by several geological journals is largely due to the technical advice and help given so readily and generously by Dr. Bull. J. F. KIRKALDY

NEWS and VIEWS

Prof. J. H. Andrew

It will be a matter of great regret to his many friends in metallurgical circles that Prof. J. H. Andrew, who has been professor of metallurgy in the University of Sheffield since 1932, retires for reasons of health at the end of this summer. A graduate of the honours school of chemistry in the University of Manchester, Prof. Andrew was for some time chief of the Metallurgical Research Department of Messrs. Armstrong Whitworth and Co., Ltd., Manchester, and from 1920 until 1932 he held the chair of metallurgy in the Royal Technical College, Glasgow. At Sheffield he has made widespread changes in the Department of Metallurgy. Obsolete equipment was quickly replaced and the curriculum brought into line with modern ideas. Buildings were extended and modernized by the provision of the Hadfield Laboratories in 1938, while in the post-war years the Department has been almost completely re-equipped, so that its facilities are adequate to meet any demands that teaching or research may make. Prof. Andrew's versatility is shown by the wide field covered by his numerous researches, which include steel making and founding, constitution and transformation of alloy steels, cold-working, gases in metals and related subjects. The recognition of his eminence as a research worker by the award of the Bessemer Medal of the Iron and Steel Institute in 1949 gave great pleasure to the numerous metallurgists he has trained in the method and spirit of research. The important positions throughout the industrial world now occupied by these men testify to the quality of that training. His departure will be felt as a loss in university circles at Sheffield outside his own Department, for both he and Mrs. Andrew have contributed much to the general affairs and social life of the University, and many have reason to remember their generous hospitality.

Physiology at Edinburgh: Prof. D. Whitteridge

DR. DAVID WHITTERIDGE, who has been appointed professor of physiology in the University of Edinburgh in succession to the late Prof. W. H. Newton, has been a fellow of Magdalen College since 1945, and a demonstrator in the Physiology Laboratory at Oxford since 1938. Previously, he had been a Demy of Magdalen, obtaining first-class honours in physio-

logy in 1934, and afterwards pursuing clinical studies at King's College Hospital. He has been a Beit Memorial Fellow and a Schorstein Research Fellow. He is senior secretary of the Physiological Society. Dr. Whitteridge's scientific work has been mainly in nervous and cardio-vascular physiology. He investigated synaptic transmission through the ciliary ganglion with J. C. Eccles. Working during the War on the physiology of blast, he was especially interested in the mechanism of rapid and shallow breathing. He found that it cannot be ascribed to sensitization of stretch receptors, and during the search for other afferent systems he has described the impulses in afferent fibres from the great veins, and a new set of afferent fibres probably arising from the pulmonary vascular bed. After the War, Whitteridge collaborated with Dr. Ludwig Guttmann in studying the cardio-vascular effects of visceral distension in patients with complete section of the spinal cord. This work directed attention to the existence of widespread spinal vascular reflexes in man and to the limitations to the compensatory activity of higher centres. More recently, in collaboration with Dr. Peter Daniel and Miss Sybil Cooper, he has been investigating the afferent impulses arising from mammalian eye-muscles, and is engaged in tracing the central connexions of the afferent fibres within the brain-stem.

Geology at Durham:

Dr. K. C. Dunham

DR. K. C. DUNHAM, petrographer of the Geological Survey, has been appointed to the chair of geology at the University of Durham in succession to Prof. L. R. Wager (see *Nature*, June 24, p. 998). Dr. Dunham is a Durham graduate who, following upon post-graduate researches on the geology of the Pennine ore field, spent three years (1932-35) as a Commonwealth Fellow at Harvard University, working principally on the mineral deposits of the Organ Mountains of New Mexico. On his return to Britain he was appointed a geologist on the Geological Survey. His investigations within the Government service have for the most part been concerned with problems of economic geology, work on the Furness iron ore fields of Lancashire and on the lead-zinc-fluorspar-barium mineralization of the Pennines being particularly noteworthy in this connexion. In recognition of the scientific and industrial value of these