

scholarly character can only be properly appreciated by those of wider experience and fuller knowledge of the progressive emancipation of this medical science from its pragmatic origins.

The formative period of Oertel's life was at the time when many young graduates in the United States had come to realize the impact on medicine of the remarkable developments that had taken place during the later nineteenth century in Germany as a result of the mutual fertilization of the medical and fundamental biological sciences. Although to him a problem in pathology always appealed as a scientific inquiry that took origin from a wish for a better understanding of causal phenomena in disease, he showed none of that lack of appreciation, not unknown among medical scientists, of the humanitarian demands of medicine. But, like some of the more far-seeing of his contemporaries in his country of adoption, he came early to realize that natural philosophy does not necessarily lose its interest by possessing useful applications, and that efforts to solve the problems presented by disease are not necessarily without intellectual attraction. It was the effort to combine the searchings of the philosopher with the responsibility of the physician that distinguished Oertel's contributions to pathology.

G. PAYLING WRIGHT

Mr. Sidney G. Starling

SIDNEY G. STARLING died on December 16, at the age of eighty-two. He was born in Bradford and received his early education at the Grammar School and Technical College. Having obtained an exhibition and national scholarship, he entered the Royal College of Science, London, in 1891 under Prof. Rücker. Here he secured first-class honours, prizes and medals and worked as assistant and demonstrator during 1893-95. Working under C. V. Boys, he undertook the calculations required for the determination of the Newtonian constant of gravitation. Between 1895 and 1898 he was assistant lecturer in mathematics and physics at Battersea Polytechnic, during which time he graduated at the University of London and was awarded the Neil Arnott Exhibition and Medal. At the opening of the West Ham Technical Institute in 1898, he was appointed the first head of the Department of Physics and Mathematics, a post he held until his retirement in 1932. In 1899 he married Miss M. Briggs, who was an assistant in the Art Department at Battersea.

Throughout his lifetime, he was an active member of the Board of Studies in Physics in the University of London and a member of the Faculty of Science. In his earlier years he was an extensive abstractor of Continental papers for the Institution of Electrical Engineers and the Physical Society of London. In 1920 he was elected Fellow of the Institute of Physics.

Starling is probably most widely known as a writer of text-books of physics. The association of Duncar (the engineer) with Starling (the physicist) in the production of their "Text Book of Physics" (1918) was suggested by Sir Richard Gregory, of whom Starling was a great friend. Starling's own "Electricity and Magnetism for Advanced Students" (1912) has been a standard text-book throughout the years, appearing in many editions, the latest being revised in collaboration with A. J. Woodall in 1953. During his retirement there have appeared "Mechanical Properties of Matter" (1935), "Physics" (in col-

laboration with A. J. Woodall, 1950) and a revision of "Science in the Service of Man—Electricity" (in association with his son-in-law, H. J. Gray, 1949).

Staff and students respected Starling for his sympathetic understanding, scientific integrity and the quiet efficient way he solved technical and organization problems. There was not the slightest procrastination or duplication of effort. He was a strict disciplinarian and a stickler for punctuality. The ease with which he could erect apparatus for research or demonstration was particularly noteworthy. His published researches and writings do not convey his skill and versatility in this direction. In particular, he did pioneer work on aeroplane compasses (theoretical and experimental) at the time of the First World War.

All his hobbies were characterized by high achievement with apparently little exertion, ranging from shooting, golf and photography to silver smithing. From 1912 he had taken a very active part in Freemasonry. Only his closest friends will have appreciated his keen sense of humour, and even they can scarcely realize the many kindly acts of sympathy and encouragement he rendered to those in adversity. He is survived by a son and daughter.

WILLIAM SWAINE

Dr. George Slater

DR. GEORGE SLATER, one of the leading glaciologists of Great Britain, died at the age of eighty-one on January 27. He started his geological career when a schoolboy at St. John's College, York. Later, he continued as an amateur geologist while a schoolmaster at Haltwhistle, Northumberland (1895-97), and at Ipswich (1897-1918). He showed an early interest in palaeontology, but at Ipswich, to quote Dr. F. A. Bather, he "became entangled with the complicated drifts of Suffolk". Patiently he mapped and recorded the structures seen in these disturbed drifts, in temporary sections, on successive faces in sand-pits and, during the First World War, in trenches dug for Army training. Though he published little during this early period, he became recognized as an authority on the glacial drifts of East Anglia, and in 1907 and 1911 led field excursions of the Geologists' Association at Ipswich.

He entered the Imperial College (Royal College of Science) in 1918 and remained a member of the geological staff until his retirement in 1939, having obtained the degree of D.Sc. (London) in 1926. The Geological Society awarded him the Murchison Fund in 1928, and in 1950 he received the Foulerton Award of the Geologists' Association.

Slater's research work was predominantly concerned with glaciology; and in 1921, when he accompanied the Oxford University Expedition to Spitsbergen as glaciologist, he was able to compare the structures seen in living glaciers with those that he had observed in the drift deposits of East Anglia. The results of his Spitsbergen work were published in the *Journal of Geology* (33, 408; 1925), and the next year he enunciated his ideas on "Glacial Tectonics as reflected in Disturbed Drift Deposits" (*Proc. Geol. Assoc.*, 37, 392; 1926). Between 1925 and 1932, at least fourteen papers dealing with various aspects of this theory were published. In them he described, often in meticulous detail, the structures seen in disturbed drifts and in glaciers. His theory that these drift structures were actually

formed within the ice-sheets, and now represent pseudomorphs of the original glacial structures, was not readily accepted by many workers when it was first proposed. In recent years, however, the hypothesis has been viewed in a much more favourable light. The evidence that he used to support his ideas was gathered from widely scattered sources: East Anglia, Wallasey, the Isle of Man, Møens Klint and Lønstrup (Denmark), Mud Buttes and Tit Hills (Alberta), drumlins near Toronto, the Rhône Glacier, and South Africa. Much of this material was collected for his D.Sc. thesis, but unfortunately his most remarkable work is, and probably will remain,

unpublished. This is his detailed measured profile along the Cromer Cliffs, plotted on a scale of 1 in. to 100 ft. (1 : 1,200). The sections, mounted together to form a continuous strip many feet in length, are now housed in the Geological Survey Library.

Those of us who were privileged to know and work with George Slater will remember him for his kindness and the sympathetic assistance he was always prepared to give. He was a first-class instructor, especially to those who were taking geology for the first time, and many recognize the debt they owe him for his encouragement.

GILBERT WILSON

NEWS and VIEWS

Chemical Engineering at Manchester :

Prof. F. Morton

THE honours degree course in chemical engineering in the Department of Applied Chemistry of the College of Technology, Manchester, has been in existence since 1933, when the Chemical Engineering Section was started under Mr. W. Cowan, and since that time the Section has grown in importance both as an undergraduate and postgraduate school. With the recent expansion of the College the opportunity has been taken to raise it to the status of a separate Department of Chemical Engineering, and Prof. Frank Morton, at present professor of chemical engineering in the University of Birmingham, has been appointed to the newly created chair of chemical engineering in the University of Manchester and in the College. The Department will include fuel technology and metallurgy, and it is hoped later to include courses in nuclear engineering and corrosion engineering.

Prof. Morton graduated in applied chemistry from the Manchester College of Technology in 1930, and for a period was a member of the teaching staff of that Department, before entering industry in 1936 as research chemist to Trinidad Leaseholds, Ltd., of Trinidad. After being successively superintendent of research and development and chief chemist in the Company, he was appointed in 1948 to a readership in chemical engineering in the University of Birmingham, and in the following year became professor of chemical engineering there. Prof. Morton's research work has been concerned with the constitution of petroleum, with methods of separation of hydrocarbons, particularly in the middle-distillate boiling range, and with the mechanism of oxidation and combustion of hydrocarbons in a diesel engine. While at Birmingham he extended his investigations to the constituents of coal tar and, in particular, to a study of liquid-liquid extraction methods for the separation of tar acids and bases. He is a vice-president of the Institute of Petroleum and chairman of the Research Committee. In this latter connexion he has been concerned with co-operative research sponsored by the petroleum industry at a number of universities and with the work on the biological activity of petroleum sponsored jointly by the Institute of Petroleum and the Medical Research Council.

Linen Industry Research Association :

Dr. A. J. Turner, C.B.E.

DR. A. J. TURNER, who is retiring from the post of director of research of the Linen Industry Research

Association at the age of sixty-seven, has had a most distinguished career. A graduate of the Universities of London and Cambridge, his first research was done under Sir William Pope. Afterwards, working on aircraft and airship materials at the National Physical Laboratory, he was appointed in 1915 head of the Fabrics Research Section of the Royal Aircraft Factory (later Establishment). Immediately after the First World War, he became the first professor of textile technology in Manchester, holding this post until 1923, when he went to India to become director of research for the Indian Central Cotton Committee. Dr. Turner was personally largely responsible for the planning of the Committee's Bombay laboratories, and for the valuable technological reports which flowed from them in succeeding years. He returned to England to become head of the Spinning Department at the Shirley Institute, Manchester, in 1931, and remained there until he accepted in 1940 the post he is now vacating. During Dr. Turner's tenure of the directorship, the scope and volume of the work of the Linen Industry Research Association have increased enormously, and through his devoted service it has come to be accepted as the research centre of almost the whole linen industry and trade. As director, he has also represented the Association on numerous government committees. Dr. Turner's well-earned honours include the presidency of the Textile Institute (1952-54), an honorary associateship of the Manchester College of Technology (1951) and various offices of the Worshipful Company of Weavers; in 1950 he was appointed C.B.E.

Mr. D. A. Derrett-Smith

MR. D. A. DERRETT-SMITH, who succeeds Dr. Turner, has been a member of staff of the Linen Industry Research Association since 1928, head of the Chemistry Department since 1938, and has had additional duties as deputy director for the past four years. He received his early training under Prof. G. T. Morgan at the City and Guilds Technical College, Finsbury, and afterwards graduated in The Queen's University, Belfast, with first-class honours in chemical technology. During his long period of service with the Linen Industry Research Association, he has made notable contributions to the chemistry of linen processing, which have been incorporated in the modern practice of bleaching, dyeing and finishing. Mr. Derrett-Smith is well known in textile circles, and will have the good wishes of all in his responsible new post.