OBITUARIES

Prof. B. P. Babkin, F.R.S.

PROF. B. P. BABKIN, who died on May 3, was one of Pavlov's most distinguished pupils. He was a leading authority on the physiology of digestion, a careful experimenter with a comprehensive understanding of his subject, a clear writer and a modest and kindly man. Babkin was born in 1877 and began working with Pavlov in 1904 at the Military Medical Academy in St. Petersburg. Pavlov was then turning to the study of the central nervous system; but Babkin, as his first assistant, continued with the researches on digestion which had made the laboratory famous, and in 1914 he published a monograph on the digestive glands.

The troubles of the post-war years forced Babkin to leave Russia in 1922, and he spent two years at University College, London, with Prof. E. H. Starling. He was then appointed to the chair of physiology at Dalhousie University, Halifax, Nova Scotia, and afterwards to a research chair at McGill. Here he worked quietly and effectively until his retirement in 1942; and after that, in spite of a weak heart, he was still actively engaged in experimental work and in the re-editing of the monograph which had now become the authoritative text on the physiology of digestion.

In March of this year, Babkin was elected a Fellow of the Royal Society: he planned a visit to Britain this summer, and was looking forward to the renewal of old friendships; but he died suddenly from a heart attack on his way home from a scientific meeting. He will be remembered not only for his researches on digestion but also for the excellent biography of Pavlov which was published last year, and for the high standard of accuracy and clarity in all his work.

Mr. Thomas Rowatt, O.B.E.

THOMAS ROWATT's directorship of the Royal Scottish Museum in Edinburgh, during 1933-44, crowned a life-time of labour in the service of that institution. He entered it as a young man of twenty-three in 1902, and the forty-two years which elapsed before he retired at the age-limit were marked by steady promotion and increasing responsibilities—assistant-keeper 1909, keeper 1921, director 1934. During these years he shared in the development of a new branch of the Museum's activities. In 1901 the then Edinburgh Museum of Science and Art was transferred from the Board of Education to the Scottish Education Department, and in the same year, under the directorship of Sir Francis Grant Ogilvie, the Technological Department was instituted, with Dr. Alexander Galt, a former assistant of Lord Kelvin, as keeper. Mr. Rowatt was the first assistant in the new Department, a post for which he was well fitted by his varied training, in Frankfurt-on-Main, and in Edinburgh as an apprentice engineer and as an engineering student at Heriot-Watt College.

So Rowatt took part in the organisation of halls and galleries to illustrate the great industries—coal mining, the manufacture of iron and steel, civil and mechanical engineering; and since the Royal Scottish Museum has always prided itself upon the instructional value of its exhibits, the static collections were liberally interspersed with working models operated by hand or by electricity, and made in the Museum

workshops. With a similar educational end in view, a school gallery was designed to illustrate physical and chemical concepts and the appliances suitable for their demonstration in science classes, and during the period of Rowatt's directorship a children's gallery was added to the Natural History Department. It was during his directorship also that part of the long-planned extension of the Museum was advanced by the building of the west wing, and this, apart from the development of the collections, enabled the miscellaneous specimens of models of ships, ancient and modern, to be re-arranged and expanded in a new and instructive shipping gallery.

During the Second World War the Museum was closed to the public for a time and used for other purposes, and on Rowatt fell the great responsibility of safeguarding an inflammable building and such treasures as had been retained in it. On its re-opening, still with educational possibilities in view, he developed the system of guide-lecturers and the organisation of temporary and highly popular exhibitions, which included, among others, Scottish fisheries, the utilization of rubber, Scottish everyday art, and Scottish birds and mammals.

Gifted with clear-cut ideas, determination, and a sense of organisation and discipline, Rowatt was appreciated by and popular with his staff and the many Museum visitors who came in contact with him. During the First World War he served with the engineers of the Royal Naval Division, and was awarded the Military Medal; in 1939 he was appointed O.B.E. Born in 1879, he died suddenly on April 7, and is survived by his wife, and a son and daughter, both graduates, the former in medicine and the latter in science, of the University of Edinburgh.

JAMES RITCHIE

Dr. F. T. Peirce

WE regret to record the death on April 11 in his native Australia of Frederick Thomas Peirce, who will long be remembered as a pioneer in the application of pure physics to the construction and testing of textiles. Peirce graduated from the University of Sydney in 1915 and then volunteered for service with the Australian Expeditionary Force, suffering severe wounds in Palestine. He came to Great Britain in 1918 under the terms of a Barker Graduate Scholarship and worked with Sir William Bragg at University College, London, on problems of X-ray powder spectrography. In 1921 he was appointed to a senior position in the Physics Department at the Shirley Institute, Manchester, and in 1924 became head of a new department. In 1931 the degree of D.Sc. by the University of Sydney was awarded to him for a thesis on the "Structure and Elastic Properties of the Cotton Hair".

During Peirce's twenty-four years in Manchester the Department of which he was the head grew steadily and provided not only important results of fundamental research work but also a large part of a valuable 'special investigator' service to members of the British Cotton Industry Research Association. His own publications included twenty-five memoirs, the importance of which to textile science was recognized by the award of the Warner Medal of the Textile Institute in 1946. The work provided such a mass of fundamental data on the relations between fibre, yarn and fabric structure and properties that Peirce and his colleagues were able to take up confidently an 'engineering' attitude to cloth design.

The outbreak of war in 1939 provided a unique opportunity to test this possibility. Cloths were required quickly for special purposes—parachutes, airmen's clothing, water tanks, arctic and tropical suitings—and the resources of the Shirley Institute were unreservedly devoted to meeting Service requirements. Peirce's own contributions came to the notice of the United States Quartermaster Corps, and in mid-1944, at their urgent request and by arrangement with the Ministry of Supply, he went to the United States to collaborate in the design of clothing for tropical jungle warfare. He very quickly made friends and was profoundly impressed by the possibilities for textile research there. The Americans on their part were impressed by his ability, range of vision and enthusiasm, and several inducements to remain in the States were soon forthcoming. Finally, at the end of 1944, he received a very attractive invitation—to become director of textile research in the School of Textiles, North Carolina State College. For years he had been pining for more sunshine and

a climate more like that of his native country, and this offer decided him in favour of a change. After coming back to Great Britain to wind up his work there, he took up the appointment in 1945. The proximity of the College to cotton fields and to centres of cotton manufacture, and the opportunity to collaborate with a large teaching staff and with the keen investigators of the Quartermaster Corps, filled him with enthusiasm for the new venture; but, alas, very soon he had a stroke, from which he never really recovered. Pathetically, his family got him home to Australia, where he died, at the age of fifty-three, leaving a widow and three daughters.

Peirce was certainly one of the leading physicists in the field of textile research, and he was also a charming and inspiring colleague, and a good friend and neighbour. His loss is a great blow to all his associates and not least to the present writer, with whom he worked in happy friendly contact for fourteen years.

F. C. TOY

NEWS and VIEWS

The Royal Society: Foreign Members

THE following have been elected foreign members of the Royal Society: Dr. W. S. Adams, Prof. Carl F. Cori, Prof. E. Fermi and Prof. Carl Skottsborg.

Dr. W. S. Adams

DR. WALTER SYDNEY ADAMS began his astronomical career in 1898, attached to the staff of the Yerkes Observatory as a Fellow in Astronomy. Six years later he accompanied Dr. G. E. Hale as one of the staff of the Mount Wilson Observatory, of which he became director in 1923 in succession to Hale. He was a source of inspiration for many years of most fruitful research at that Observatory, and since his retirement from a post with such heavy administrative duties he has returned with renewed vigour to the joys of spectroscopic research. He was elected an associate of the Royal Astronomical Society in 1914 and was awarded its Gold Medal in 1917 for his investigations in stellar spectroscopy, including the determination of absolute magnitude. He has been throughout an active member of the International Astronomical Union and was vice-president during 1935–48; the Union is indebted to him for keeping it working so far as possible during the difficult years of the Second World War. He has made magnificent use of the opportunities that have been his to study high-dispersion stellar spectra; mention must be made of his pioneer work on spectroscopic absolute magnitudes, his study of the laws of solar rotation at different levels in the sun's atmosphere, his work on interstellar *H* and *K* lines of complex structure, his calibration of Rowland's scale of intensities for solar lines, his examination of the spectra of novæ and his work on early-type stars and their radial velocities. There are, in fact, very few branches of stellar spectroscopy to which he has not made major contributions. His many friends will be delighted at this most recent recognition of the importance and wide range of his astronomical researches.

Prof. Carl F. Cori

THE election of Prof. Carl F. Cori to foreign membership of the Royal Society will give satis-

faction to biochemists throughout the world. His work has been mainly carried out in collaboration with his wife, Dr. Gerty T. Cori, and they shared one half of the Nobel Prize for Medicine in 1947. The research work of this distinguished pair shows, throughout the thirty or so years in which they have been working, a logical thread and unity which is rare in any field but particularly so in that of biochemistry. In the early 1920's, the Coris investigated the carbohydrate balance of animals, particularly that of the rat, and the influence thereon of hormones, such as adrenaline and insulin. Their eponymous cycle, whereby blood glucose undergoes conversion first to muscle glycogen, then to blood lactic acid, to liver glycogen and so back to blood glucose, was an important outcome of this work. They then turned their attention to the investigation of the enzymes in liver and muscle concerned in glycogen formation and breakdown. This quickly led to the isolation, characterization and synthesis of glucose-1-phosphate, a key substance in the intermediary metabolism of glucose. Isolation of the enzyme phosphorylase followed, and a distinction was drawn between phosphorylase *a* and phosphorylase *b*. Their discovery, in 1939, that phosphorylase will act on glucose-1-phosphate *in vitro* under suitable conditions to give polysaccharides resembling glycogen and starch was a magnificent outcome of this aspect of their work, and provided the first example of the *in vitro* synthesis of a polysaccharide. This discovery may be said to be a turning point in the development both of carbohydrate metabolism and of polysaccharide chemistry.

Turning once more to the influence of hormones on metabolic processes, the Coris have recently investigated the action of hormones on enzyme systems *in vitro*, and, although many results have been largely negative, the effect of anterior pituitary extracts and insulin on hexokinase activity *in vitro*, which they observed, has been confirmed under the conditions which they described. On the other hand, experiments with enzymes and hormones *in vitro* are so often uncertain that the Coris have now turned to the examination of the activity of enzymes obtained from an animal which has been treated