research on one hand and secrecy in technological matters of military importance on the other.

The violent attack on the old and well-established belief in the right to freedom in scientific research—an attack which, during the 'thirties, very nearly swept public opinion in Great Britain into a wholesale denial of that right—has turned attention to the psychological and philosophical foundations of that belief. A good deal of thought and study has been and is being devoted to the subject by members of the Society, and the results of some of it have been published. The field is wide, and much of it needs further clarification, for example, the relation of freedom in science to the concept of freedom at large. The present time, when the conflict between the opposite ideals of individualistic freedom and of the highly organised State with its tendency to totalitarian compulsion has reached a new degree of intensity, is particularly opportune for the active prosecution of these investigations.

¹ The whole set of Occasional Pamphlets may be obtained from the Secretary of the Society for Freedom in Science, University Museum, Oxford. 6s. 7d., including postage.

² Hudson, P. S., and Richens, R. H. "The New Genetics in the Soviet Union." Published by the School of Agriculture, Cambridge, 1946. 6s.

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OBITUARIES

Sir Carruthers Beattie

SIR CARRUTHERS BEATTIE, vice-chancellor and principal of the University of Cape Town during 1918–37, died in Cape Town on September 10.

John Carruthers Beattie was born in Dumfriesshire on November 21, 1866, and was educated at Edinburgh, where he was an 1851 Science Research Scholar and Vans Dunlop Scholar in physics, and afterwards at Munich, Berlin, Vienna and Glasgow. In 1897 he went to South Africa as professor of physics at the South Africa College, Cape Town, being one of a group of Scottish professors at the College who played a great part in the development of education in South Africa and raised the status of the South African College so that in 1918 it was reconstituted as the University of Cape Town. Beattie had been appointed principal of the College in 1917, and became in 1918 the first vice-chancellor and principal of the University. Under his administration the fine buildings of the University on the slopes of Table Mountain above Groote Schuur—probably the most magnificent site of any university in the British Empire—were planned and erected.

At the South African College the teaching duties of the professors were heavy and left little time for research. The most important scientific work undertaken by Beattie was the first magnetic survey of South Africa, carried out in collaboration with Prof. J. T. Morrison, of Stellenbosch, between 1898 and 1906. Beattie was granted leave of absence for one year in 1903 to continue the observations; apart from this, the observations were made during the various college vacations. More than four hundred stations were occupied from Agulhas in the south to the Victoria Falls in the north, and from Saldanha Bay in the west to Beira in the east. About twenty repeat stations were selected, at which observations were made at frequent intervals during the course of the survey for the determination of diurnal and secular variations. The results were published by the Royal Society in 1909 as "Report of a Magnetic

Survey of South Africa" (235 pp.). Travelling in remote parts of South Africa at that time involved many discomforts, but in the course of it Beattie acquired an intimate knowledge of the country and its people.

Beattie was president of Section A of the South African Association for the Advancement of Science in 1910, in which year he was awarded the Medal of the Association. He became president of the Association in 1928. During 1905–6 he was president of the South African Philosophical Society and, after the formation of the Royal Society of South Africa, was for a time general secretary of the Society. He served on many Government committees and boards; he was a member of the Universities Statutes Commission, 1917; of the Scientific and Industrial Research Committee, 1907; of the Industries and Science Board, 1920; and of the Mining Industry Board, 1923. He was chairman of the Survey Commission in 1921. In 1920 he was created a knight bachelor.

The young University of Cape Town was fortunate in having Beattie as its principal for twenty years. Under his wise guidance a well-merited reputation, both in teaching and in research, was rapidly built up. He gained the respect and affection both of the students and of his colleagues. He was not an autocrat, but he could be firm when firmness was required. Patient, tactful, modest and approachable, he was an ideal principal.

In 1898 he married Elizabeth, third daughter of W. Paton, of Scarborough, and had a son, who was killed in the Second World War, and two daughters.

H. SPENCER JONES

Prof. M. Camis

ALBERTO MARIO CAMIS, formerly professor of physiology in the Universities of Bari, Parma and Bologna, died on August 28, at the age of sixty-eight. For some years heart disease had seriously impaired his physical health, but his intellectual powers were unabated. His death will be mourned by a large circle of Italian and foreign friends. He paid several visits to physiological laboratories in Great Britain, beginning in 1908, when, as a young graduate from Pisa, he worked at Cambridge with Langley and Barcroft and at Liverpool with Sherrington. A year or two later he edited volume 1 of the English translation of Luciani's "Human Physiology".

Camis' scientific work covered a wide field, with original contributions on metabolism, respiration, oxygen carriage, the pharmacology of muscle, physiological psychology, the labyrinth, autonomic reflexes, the spinal cord, and the cerebellum. A cultured writer, with a great sense of style and arrangement, he also wrote some admirable monographs. "Il meccanismo delle emozioni" (1919) and "La fisiologia dell'apparato vestibolare" (1928) are particularly noteworthy. His interests in other branches of science, especially physics, in philosophy, in history, in literature, and in art gave him a breadth of view which, combined with modesty, kindness, tact and generosity, made him a delightful companion. His short, stocky figure, black beard, vivacious manner and twinkling eyes will be remembered by all who met him. Well versed in the physiological literature of five languages, he was a frequent attendant and contributor at the International Physiological Congresses,

including the last at Zurich in 1938. Possibly his most important work was as a teacher and an encourager of young physiologists. He was an interesting and lucid lecturer who could interpret modern science to a lay audience.

An ardent patriot with a passionate devotion to Italy, Camis' later years were saddened by the misfortunes that befell his country. During the Italian campaign against Ethiopia, he spent nine months as a volunteer (aged fifty-six) in Somaliland studying the metabolism and diet of both natives and European immigrants. The results, which contradicted much of the teaching then current, were published by the Reale Accademia d'Italia in a slim volume entitled "Metabolismo basale ed alimentazione in Somalia" (1936). Yet little more than two years after his return to be professor at Bologna, he was pensioned

by the Italian Government on account of a Semitic strain in his ancestry. Thereupon he followed an old inclination by becoming a Dominican monk, and in June 1939 was sent to Manila in the Philippines to join the staff of the Dominican University of St. Thomas there. But his health would not stand a tropical climate and he returned after six months to the House of his Order at Bologna where, until 1943, he taught psychology in its seminary. For the remainder of the War he found a refuge from the Nazi domination of Italy in the Dominican University at Rome. After the liberation he was at once restored to his professorship, but ill-health prevented him from taking up the duties. He spent the last year of his life at the Convent of St. Dominic in Bologna, where he died. He was childless and a widower.

R. S. CREED

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NEWS and VIEWS

Prof. E. D. Merrill

ON October 14, Dr. Elmer Drew Merrill, the well-known American botanist, was seventy years of age. To mark the occasion, special numbers of the *Journal of the Arnold Arboretum* (Harvard University) and of *Chronica Botanica*—in the latter case comprising a selection from Dr. Merrill's principal general writings, with a biography and bibliography, entitled "Merilliana"—have been issued. After holding posts in his *alma mater*, the University of Maine, and in the U.S. Department of Agriculture in Washington, Merrill lived and worked from 1902 until 1923 in the Philippines, first as botanist to the Bureau of Agriculture and later also to the Bureau of Forestry at Manila and eventually to the Philippine Bureau of Science. For several years, while holding the latter post, he was also head of the Department of Botany of the University of the Philippines, and in 1919 he became director of the Bureau of Science. During this period he wrote the "Flora of Manila" (1912), "An Interpretation of Rumphius's Herbarium Amboinense" (1917), "Species Blancoanae" (1918), "A Bibliographic Enumeration of Bornean Plants" (1921), and the "Enumeration of Philippine Flowering Plants" (4 vols., 1923–26).

In 1924, Merrill left the Philippines to become dean of the College of Agriculture, and director of the Agricultural Experiment Station, of the University of California, being also director of the California Botanic Garden during 1927–29. The University of Maine conferred on him the honorary degree of D.Sc. in 1926. While in California he wrote "Plantae Elmerianae Borneenses", which appeared in 1929. In 1930 he became director-in-chief of the New York Botanic Garden. His important "Commentary on Loureiro's 'Flora Cochinchinensis'" was published in 1935. Since that date Dr. Merrill has held the post of professor of botany and administrator of botanical collections at Harvard University.

Philip Hill Chair of Biochemistry: Dr. Frank Dickens, F.R.S.

DR. F. DICKENS has been elected to the Philip Hill chair of experimental biochemistry tenable in the Courtauld Institute, London. This chair is an independent research post endowed by Mrs. Philip Hill

in memory of her husband. Dr. Dickens took the Natural Sciences Tripos at Cambridge, and then spent two years in research work on pure organic chemistry under the late Sir Jocelyn Thorpe. In 1923 he became an assistant in the Biochemical Department (later the Courtauld Institute) of the Middlesex Hospital, and collaborated in the important work done there on insulin and sex hormones under the direction of Prof. E. C. Dodds. In 1927 he began his interesting work on tissue metabolism. In collaboration with the late Dr. Simer, he devised a method, which has been widely adopted, for the measurement of the true respiratory quotient of isolated animal tissues. This method has the advantage of being applicable in the presence of bicarbonate and carbon dioxide mixtures. By the use of this method he was able to show that there is a distinct difference in the metabolism of cancerous and most normal tissues. Dr. Dickens has also conducted research on tissue enzymes and the inhibitory effect on them of such substances as fluoride and iodoacetic acid. He has also obtained a certain amount of evidence to show that different paths of fermentation and oxidation may be available in cells and cell extracts from that usually followed, and which is known as the Embden-Meyerhof cycle. Dr. Dickens has also shown that tumours and embryonic tissues have an unusually high content of citric acid. A study of the distribution of citric acid in the body showed that about 1 per cent is contained in the hard substance of bone, and that this is very easily influenced by dietary and hormonal conditions, and may play an important part in calcium metabolism and bone formation. During 1943–44, at the request of the Medical Research Council, Dr. Dickens undertook special research on the toxic effects of oxygen on brain metabolism. Dr. Dickens has recently published four papers on the factors which control the carcinogenic action of certain hydrocarbons.

Zoology at University College, Hull:

Prof. P. G. 'Espinasse

MR. P. G. 'ESPINASSE has become professor of zoology at University College, Hull. The College opened in October 1928, and the following year Mr. 'Espinasse, who had just graduated in the final honour school of zoology at Oxford, was appointed