

## OBITUARIES

Sir Charles Martin, C.M.G., F.R.S.

CHARLES JAMES MARTIN was born in London in 1866. He received his early education privately and later entered King's College, London, before going to St. Thomas's Hospital, where he qualified in medicine. He was a brilliant student, winning many distinctions, and was a gold medallist and University scholar in physiology. For a time he studied at the University of Leipzig under Karl Ludwig. Shortly after qualification, in 1891, he went out to Australia and after holding junior posts in the departments of physiology at Sydney and Melbourne, became professor of physiology at Melbourne in 1901—the year in which he was elected to the fellowship of the Royal Society.

His work over a period of twelve years in Australia not only showed that he was a potential research worker of great ability but also a man who could inspire and initiate work in varied fields. He exerted a great influence on medical education and is acknowledged as one of the founders of medical research in that country.

In 1903 Martin returned to England to become the director of the Lister Institute of Preventive Medicine. He had such a profound influence upon the development of the Institute that he may be said to have created it and was largely responsible for the high quality of its scientific work and the large number of scientists who were trained during his directorship.

In the interruption caused by the First World War, he joined the Australian Army Medical Corps and received the rank of lieutenant-colonel. He organized the laboratory pathological services for the Gallipoli campaign and dealt with the difficulties connected with amoebic and bacillary dysenteries and the typhoid fevers. This work was later continued in Egypt and Palestine. In 1917 he went to France, where he organized and directed the pathological department for the 23rd General Hospital of the British Royal Army Medical Corps at Rouen. He was twice mentioned in dispatches and was made C.M.G. for his war service.

When, in 1930, he retired from the directorship of the Lister Institute, he accepted the invitation of the Australian Council of Scientific and Industrial Research to take temporary control of the Institute of Animal Nutrition at the University of Adelaide, where he was appointed professor of biochemistry and general physiology. Returning to England after three years, he was still active in many scientific fields. While living in retirement at Cambridge he carried out a fundamental research on myxomatosis of rabbits and its immunological implications. In collaboration with colleagues at the Lister Institute in London, he took an active part in an experimental study of the nutritive value of maize, made on pigs at Cambridge, as a contribution to the solution of the pellagra problem in man. On the outbreak of the Second World War, he arranged accommodation at his house in Cambridge for the Nutrition Unit which was evacuated from the Lister Institute in London, and gave valued help to the various war problems which devolved on this team. The war over, Sir Charles was seventy-nine years of age; it was only then that the disabilities of old age began to tell upon him. Even so, in the following years he carried on with scientific work—his last paper was published in 1948—and was able to make useful

comment upon the work of those colleagues who came to see him, and to keep to the end his interest in scientific matters. He was chairman of the Committee of the Dunn Nutrition Laboratory in Cambridge until 1946 and scientific adviser to the International Wool Secretariat until 1949. He died on February 15, in his ninetieth year.

Martin's achievements lay in many different fields of scientific inquiry. In his early days in Australia, he was concerned with problems of the metabolism and the heat exchange of marsupials and the monotremes *Echidna* and *Ornithorhynchus* (duck-billed platypus), those 'half-mammals' indigenous to that country. Added to this work were studies of the toxins and antitoxins of snake venom, in the course of which he developed an ingenious ultrafilter, thereby demonstrating the difference in their molecular sizes. While at the Lister Institute, his own researches included studies on the epidemiology of plague and the mechanism by which the infected rat flea is enabled to infect the human host, and the mechanics of the disinfection process and of the heat coagulation and precipitation of proteins. With himself as subject, he investigated the thermal exchange and heat regulation of the human body under varying conditions of environment and physical work. His lectures on this subject were delivered as the Croonian Lectures of the Royal College of Physicians in 1930. He took an early interest in the modern study of nutrition, and from 1910 onwards work was in train at the Institute on the cause of beriberi and the distribution among foods of the preventive vitamin. A prepared mind thus enabled him, in 1915, to recognize, as a form of beriberi, a disorder among the Australian troops in the Middle East which had baffled the Army clinicians, and to recommend measures for its prevention and cure. After the end of the First World War he became interested in the biological value of food proteins and, again on his own person, carried out experiments which are acknowledged as a model for tests of this type.

In addition, he was an inspiration to his colleagues who dealt so successfully with the problems of fermentation, calcification of bone, the chemistry and metabolism of fat, plague, immunology, bacteriology and nutrition. Though he was not trained in all the necessary techniques, he was widely read, had an excellent memory and could contribute usefully to work in many varied fields. He was able to see the essence of a problem and to sense the lines upon which its solution might be possible. This, coupled with his ability to make apparatus that would do the job both for himself and for others, made him so valuable in the early days in Australia where equipment was lacking, and at the Lister when by far the quickest way to get apparatus was to make it oneself.

Although Martin left Australia when he was thirty-seven years of age, he never lost his contact with that country, a contact enlivened by the constant stream of Australian graduates who came to the Lister Institute. There they found a spirit of intellectual adventure which was kept in proper bounds by severe criticism, hatred of slipshod work, great integrity and dislike of self-advancement. Australia never ceased to appreciate what he had done, and in 1952 the Australian Government founded two medical research fellowships in his name to enable young Australian scientists to work overseas.

Sir Charles Martin received the Royal Medal of the Royal Society in 1923. He was a doctor of science of the Universities of London and Melbourne and held honorary doctorates of the Universities of Sheffield, Edinburgh, Durham and Trinity College, Dublin, and was an honorary M.A. of Cambridge. He was knighted in 1927. In 1926 he was made a member of the Medical Research Council, and he gave valuable help on many government committees.

Sir Charles Martin married Edythe, daughter of Alfred Cross, of Hastings, and had one daughter. His wife died in March 1954, at the age of ninety-four years.

HARRIETTE CHICK  
ALAN N. DRURY

It was in his capacity as chairman during 1934-46 of the Committee of the Dunn Nutritional Laboratory, Cambridge, that I had the privilege of getting to know Sir Charles Martin well, and so of coming to respect, to admire and to love him. Intellectually, what stood out most was his astonishing width of interest and knowledge, in the most varied fields of medical research. Equally at home in many specialized departments of pathology, physiology, bacteriology, or biochemistry, he had the gift of seeing right into the heart of a problem; and knowing, as he did, how the present knowledge had been won, he quickly sensed what gaps still remained to be filled in. He was interested in knowledge for its own sake, and, unlike some lesser men, judged a research finding on its merits alone, not by its authorship. In consequence, he was able to recognize talent and originality where others might miss seeing it, and, as a result, had the satisfaction of fostering young, and sometimes precarious, research careers—leading in one instance at least to a later Nobel laureateship. He was never one of those prone to put his own name on the title of the papers of his assistants and students, published from his institute. On the contrary, it was an open secret that, during the years that he was director of the Lister Institute, much of the now classical work appearing under other names was really suggested, inspired and directed—sometimes even down to the smallest technical details—by him. He himself took a pride in being a competent technician and handyman, and in “Who’s Who” gave “tinkering” as his hobby. Entirely devoid of affectation and pretentiousness, he had not the inclination to waste time, for example, on the elegancies of dress, and on more than one occasion had—but only for a moment—been mistaken for a wandering tramp.

Martin’s scientific integrity was marked by a robust sense of right and wrong, and fair dealing, combined with practical common sense. He was prepared, in no uncertain voice, when occasion demanded, to stand up against established authority. To his junior colleagues and to his friends, he could at times be blunt and outspoken to a degree; but his direct speech never caused resentment, and one was warmed by the friendly, welcoming smile, always lurking below. Although in his own tastes simple to a degree, he could prove himself a man of the world in dealing with officialdom; indeed, one of his maxims was that people who failed to rub shoulders with their contemporaries had not succeeded in learning one of the elementary ‘techniques’ of their trade. Another of his maxims was that it is useless to appeal to reason where a person’s emotions have become involved.

Up to the end, Sir Charles retained both his charm and penetrating intellectual faculty.

LESLIE J. HARRIS

#### Dr. W. W. Barkas

WILFRID WATSON BARKAS, reader in paper-making technology in the Faculty of Technology of the University of Manchester, died on January 30 at the age of fifty-seven. Dr. Barkas was a North-countryman who was educated at the Friends’ School in Kendal and in the University of Manchester.

During the latter part of the First World War, Barkas served with the Friends’ Relief Service in France and returned home with “a deep appreciation of the finest qualities of the French peasant” and “a love of French food and wine”. After graduation in physics and mathematics in Manchester, he took a teacher’s diploma; but he was glad that he did not become a teacher. Instead, he joined the staff of the Physics Department of University College, London. He never fully recovered from a serious illness he had at this time.

In 1930 he was appointed to organize the Timber Physics Department at the Forest Products Research Laboratory in Princes Risborough, where he proved a “generous and inspiring leader”. While there he published a considerable amount of original work on the properties of fibres and fibre assemblages, for which he obtained his D.Sc. in 1945 and his fellowship of the Institute of Physics in 1946.

In 1949 he took charge of the Paper Making Section in the Manchester College of Technology, where he completely re-organized the courses. In doing this he was helped by his good personal relations with the leaders of the paper and board industry, who showed their support of him by the foundation of the George Rackley Scholarships to encourage students to take the new courses.

Barkas’s research work greatly impressed foreign scientists. In 1948 he was invited to deliver a series of lectures at the Swedish Forest Products Research Laboratory. These lectures were very well received and Prof. Steenberg says of them that they have had “a very marked influence on the general way of thinking in Scandinavia”. Last autumn there was a symposium at the Institute of Paper Chemistry in Appleton, Wisconsin, sponsored by the Research Councils of the Technical Association of the Pulp and Paper Industry of the United States and the Canadian Pulp and Paper Association and attended by two hundred of the leading workers in this field. As Dr. Barkas himself was not able to attend, the delegates to the symposium sent him a cable of appreciation of his work on which so much of their discussion had been based.

It is very sad that he did not live to see the full fruition of his ideas. He will be greatly missed by all who knew him.

J. M. PRESTON

#### Dr. C. W. Bellerby

CHARLES WILLIAM BELLERBY, who died on October 27 last year, will be remembered for several noteworthy contributions to reproductive endocrinology. He graduated in 1923 in Cambridge, as a member of Christ’s College, and in 1925 joined me in the Department of Physiology in University College,