occupy his time. In 1910 a second phase of interest in the cloud apparatus followed, and early in 1911, for the first time, the tracks of individual α-particles and electrons were seen and photographed. The paths of the α-particles were just as W. H. Bragg had drawn them, five years previously, and the tracks of the electrons "little wisps and threads of clouds". This achievement was widely—and justly—acclaimed but, strangely, the literature of the period provides little evidence that others elsewhere sought to emulate Wilson's success.

The situation was entirely different after the third phase of Wilson's own interest. By 1923 he had finally brought to perfection this most remarkable method of experiment. The photographs of electron tracks with which he illustrated two classic papers published in that year were of such quality—and beauty—that the cloud chamber could no longer be dismissed as an amusing toy. All over the civilized world workers built themselves the necessary equipment. In Cambridge, Blackett and Kapitza; in Paris, Irène Curie and Auger; in Berlin, Bothe and Meitner and Philipp; Skobelzyn in Leningrad; Kikuchi in Tokyo—all within a very few years were operating Wilson cloud chambers with signal success. This was but the beginning of the story, and it is pointless here to continue it. Whoever turns the pages of a physical journal of the past thirty years will see for himself something of what the harvest has been: he will appreciate the abundance of it even more clearly if he turns the pages of "An Atlas of Typical Expansion Chamber Photographs" (1954), with its dedication to "C. T. R. Wilson, whose invention of the cloud chamber made these photographs possible", and its frontispiece reproducing his portrait by James Gunn. There could be no better *Festschrift*.

Wilson gave to physicists in general a sharp tool for research, second to none. By contrast, he gave to very few of them his personal guidance, as director of their individual researches: to Wormell, in the general field of atmospheric electricity (in this notice Wilson's contributions to this field have no more than been hinted); to Powell and Dee and J. G. Wilson in cloud-chamber studies; so the list is almost complete. Too much must not be made of this distinction: whether he be of the select few, or of the many, every physicist who has ever operated a cloud chamber must acknowledge his debt. It cannot be measured in words.

C. T. R. Wilson was born on February 14, 1869. He died on November 15 in the midst of his family. Mrs. Wilson, his son and two daughters survive him.

NORMAN FEATHER

NEWS and VIEWS

British Ceramic Research Association: Dr. A. T. Green, C.B.E.

DR. A. T. GREEN retires from the directorship of the British Ceramic Research Association on December 31, after thirty-eight years service to the ceramic industry, during which time he has established himself as one of the world's leading ceramists. An old boy of Hanley High School, he joined Dr. Mellor at the British Refractories Research Association after the end of the First World War and quickly became associated with work on refractories for the steel and gas industries, and by his incisive attack on the problems he then encountered he laid the foundation for future developments, the benefits of which are still being reflected in the economics of those industries. He was made assistant director in 1931 and succeeded to the directorship on Dr. Mellor's retirement in 1937. After the Second World War, Dr. Green, who had been made O.B.E. for his contribution to the war effort, was charged with the task of uniting the British Refractories Research Association and the British Pottery Research Association to form the British Ceramic Research Association, and he took up the directorship in 1947. The Association's main laboratories in Queens Road, Penkhull, opened in 1951 by the Duke of Edinburgh, were planned under Dr. Green's direction, and the steady output of research papers—more than 400 have been published since 1948—is a tribute to the inspiration with which he has led his team of research workers. Dr. Green has been able to see, before his retirement, the completion of another laboratory block—to be named the Mellor-Green Laboratories—which is to serve the structural clay products branch of the ceramic industry. Dr. Green was made C.B.E. in 1957, and was awarded the degree of D.Sc. *honoris causa* by the University of Leeds in 1949. He is an honorary member of the Institute of Gas Engineers and of the British Ceramic Society; the latter he has served as honorary general secretary for the past twelve years. He was one of the founders of the Institute of Ceramics and was its first president.

Dr. N. F. Astbury

DR. N. F. ASTBURY, who has been deputy director since 1957, will succeed Dr. Green. Dr. Astbury was a scholar of St. John's College, Cambridge, where he obtained first-class honours in both parts of the Natural Sciences Tripos. After leaving Cambridge, Dr. Astbury was for ten years on the staff of the National Physical Laboratory, and at the outbreak of war went to the Anti-Submarine Experimental Establishment. In 1945, he entered industry to become director of research of the firm of Joseph Sankey and Son, Ltd., and then director of research to the Guest Keen Nettlefold Group of Companies, of which Sankeys is a member firm. During this time Dr. Astbury planned the central research laboratory for the group, which has now been established in Wolverhampton for ten years. Since 1949 Dr. Astbury has held two professorships—one, the chair of applied physics in the University of New South Wales and the other in the University of Khartoum, where he was also dean of the Faculty of Science. For a short time before joining the British Ceramic Research Association he was at the Royal Aircraft Establishment, Farnborough. Dr. Astbury was awarded his Sc.D. by the University of Cambridge in 1954. He serves on the Education and Membership Committee of the Institute of Physics and on the Advisory Board of the *Journal of Scientific Instruments* and the *British Journal of Applied Physics*, and he is also a member of the Board of Studies of the National Council for Technological Awards.