

OBITUARIES

Prof. F. J. M. Stratton, O.B.E., F.R.S.

A GREAT many friends all over the world will have learned with regret of the death on September 2 of F. J. M. Stratton; 'Professor' to some, 'Colonel' to others, 'Chubby' to many.

Frederick John Marrian Stratton was born in Birmingham on October 16, 1881. He was educated at King Edward's Grammar School, at Mason University College (afterwards University of Birmingham) and at Gonville and Caius College, Cambridge. He was third Wrangler in 1904, Isaac Newton Student in 1905, and Smith's Prizeman in 1906. In the years before 1914 he was a mathematics lecturer at Caius College and also assistant director of the Solar Physics Observatory, Cambridge, under H. F. Newall. His early papers covered a wide range of astronomy, including celestial mechanics, but the appearance of Nova Geminorum (1912) focused his attention on what proved to be a problem of life-long interest. In 1914 he had gone to the Crimea with Newall, intending to observe the total solar eclipse of August 21, but on the outbreak of war he hurried back to England and joined the Army immediately. He served with great distinction in France and was awarded the D.S.O. and the Légion d'Honneur.

The First World War was the first of the great upheavals of this century and the one for which the world was least prepared. At its end, Stratton returned to Caius College, as senior tutor, to face what was a difficult time of readjustment for the University at Cambridge, as much as for Britain as a whole. If one may judge by the remarks of his pupils it was a job for which his personality and experience admirably suited him, and which he carried out with much success. During this period he continued to give lectures on astronomy, among them one of the first general courses on astrophysics to be given in Britain. Somehow he also found time to go to Sumatra for the 1926 total solar eclipse, where with C. R. Davidson he made successful observations of the chromospheric spectrum.

On Newall's retirement in 1928, Stratton was appointed professor of astrophysics and director of the Solar Physics Observatory, relinquishing his tutorship at Caius. He held this post until 1947, although his tenure was interrupted, first by a serious illness in 1931 and later much more extensively by the Second World War. This period of his life was notable for the encouragement and help he gave to a whole generation of younger astronomers, many of whom still remember him with gratitude. He organized three more eclipse expeditions, to Siam, Canada and Japan, but was dogged by bad luck with the weather. Only in Japan, in 1936, were results of any scientific value possible. Even then the success was only partial, the Sun being covered by a cloud almost at the instant of second contact. However, members of his team made good measurements of wave-lengths in the spectrum from very near the Sun's limb, and obtained chromospheric spectrograms, study of which by Thackeray and by Woolley stimulated a good deal of later work.

In 1934, Nova Herculis appeared and, despite the inadequate equipment of the Solar Physics Observa-

tory at Cambridge, Stratton and his staff during the next few months obtained a remarkable record of the spectrum changes of what turned out to be an extremely interesting star. Work on this spectrum absorbed much of his energies for several years, culminating in the production, with W. H. Manning, of the "Atlas of the Spectrum of Nova Herculis", using material made available from all over the world. This is still one of the most complete records we have of a nova outburst.

In 1939, at the outbreak of war, Stratton was bitterly disappointed at the refusal of the British Army to allow him to undertake active service again (at the age of fifty-seven), but nothing would stand in the way of his giving service of some kind. So the war years found him travelling extensively, in Canada, Australia, India and elsewhere, on duties for the Royal Corps of Signals. At the conclusion of the War, he had only two more years as professor of astrophysics, and in the conditions then prevailing in England, he realized he could do little to get back into active astronomy. He did, however, complete an interesting history of the Cambridge Observatories up to 1947. After his retirement he was deputy scientific adviser to the Army Council for two years and continued to serve on innumerable committees.

To celebrate his seventieth birthday, some of his pupils undertook, with Dr. A. Beer as editor, to produce what was to have been a *Festschrift*, but which expanded, as more and more of his friends came to hear of it, into two thick volumes, "Vistas in Astronomy". Indeed, the publication quite outgrew its original purpose, no doubt causing Stratton some amusement as well as gratification, and a third volume appeared, while yet others are still in preparation.

Stratton's official posts formed only a part of his activities. During 1925-35 he was general secretary of the International Astronomical Union, and did much to foster what was one of the earliest and most successful of the international scientific unions. He was also general secretary of the International Council of Scientific Unions from 1937 until 1952, and general secretary of the British Association, 1930-35. He was president of the Royal Astronomical Society, 1933-35, and its foreign secretary during 1945-55. He was honorary secretary of the Society for Visiting Scientists during 1948-55. He was president of Caius College, 1946-48, and at the time of his death was its senior Fellow. He served as president of the Society for Psychical Research, 1953-55. He was a life-long supporter of the Unitarian Church and was ever active on behalf of ex-servicemen's societies and causes. In the early 1930's he gave much help to refugee scientists from Central Europe. He was elected to the Royal Society in 1947.

Until his last years, Stratton lived life at the double. He thought fast, talked fast, decided fast, and in his younger days moved fast. Despite great sociableness and much hospitality, he was not an easy man to get to know really well, in part because he tended to keep his life in watertight compartments. He made great contributions to science and learning, chiefly by help and encouragement to younger men,

and not merely in Great Britain alone. A bachelor, he was completely devoted to his College, his pupils, to astronomy and especially to the International Astronomical Union, to his comrades of the First World War, and to his duty wherever he thought it to lie. Personal convenience, comfort or profit came very low indeed on his scale of priorities. He was one of the most generous men I have ever met, and one of the most modest. Astronomer, soldier, don, Unitarian, internationalist, he has left the world greatly in his debt.

R. O. REDMAN

AMONG young intellectuals in the universities, in the years before the First World War, it was commonly regarded as a sign of feebleness of intellect to believe that war was conceivably possible; and indeed as a mark of moral obliquity to take any personal steps to meet such an emergency. Fortunately a substantial minority, in reality no less intelligent, paid rather little attention to the intellectual and moral stigma; and the following short story of a small group of them at Cambridge describes one of the earliest contributions of young scientific men to national preparedness for war.

In 1908, under the Haldane Scheme for the Territorial Army, the Officers Training Corps of the Universities took the place of the earlier Volunteers. In Cambridge, in addition to the previous battalion of infantry, units were established of cavalry, artillery, engineers and medicals. Two years later, under the imaginative leadership of F. J. M. Stratton, a Signal Company was started and before long a wireless telegraph section was formed as part of it. Encouraged by Bertram Hopkinson, professor of engineering, who lent a room in his laboratory, the wireless section began work on the design of sets for field work and it drew in a remarkable group (as it proved) of young scientists for the task. It was not possible in those days to go and buy components from dealers, and radio valves did not exist. Everything had to be built up in workshop, laboratory, or tent, by members of the section itself. Since sets had to be portable, a generator was designed to be fitted to a bicycle, and during 'operations' a member of the section pedalled steadily, if wearily, to provide power for transmission. When communication failed, for example, between Farnborough Common and Eelmore Hill, it was re-established by flag and/or bicycle.

A photograph exists showing the ten members of the section in 1912, together with Captain Stratton commanding the Signal Company and a portable radio set complete with antenna. In it, among others, are Lance Corporal Henry Thirkill, Lance Corporal T. L. Eckersley, Private Harold Spencer Jones and Second Lieutenant A. V. Hill. Those were early days. By 1914 the wireless section had expanded considerably, and since no reserve of regular W/T officers existed when the War broke out, it was natural that members of the section should be drawn into field wireless. In fact, the section provided senior wireless officers for four armies. After the War, the Signal Company was more generously treated by the War Office, and a special research group was formed inside the wireless section.

Prof. (alias Lieut.-Colonel) Stratton recalled that, among the members of his Signal Company, the following could be counted: several who went into industry, one of whom was scientific adviser to Marconi's for twenty-seven years; four vice-chancellors and five masters of Cambridge colleges; nine

professors; nine Fellows of the Royal Society and three Nobel Laureates; one director of scientific research, Admiralty; one chief engineer of posts and telegraphs, India; one secretary of the World Meteorological Organization; three successive secretaries-general of the International Council of Scientific Unions; one Astronomer Royal; two major-generals; [one D.S.O.]; one bishop; one Colonial chief justice; one M.P.; and one Olympic gold medallist. This list, as its author admitted, was rather a fraud, since on the average each person in it occurred twice. Nevertheless, it is rather impressive, particularly when one remembers that two-thirds of these people served in the Signal Company during its initial years 1910-14.

A. V. HILL

Dr. J. Brooks, O.B.E.

DR. JACK BROOKS, principal scientific officer at the Low Temperature Research Station, who died in Cambridge on October 2, was in charge of the work on eggs and poultry.

Brooks joined the scientific staff of the Low Temperature Research Station in 1928 from the Muspratt Laboratory of Physical and Electro-Chemistry of the University of Liverpool, at the invitation of the late Sir William Hardy. From the outset of his career he was an individual worker, belonging to the less-common class of investigator who prefers to do most things for himself in the laboratory. Before the War Brooks made a name for himself in fundamental research, especially in the field of haematin pigments. Quite early in his career he was publishing work in the *Proceedings of the Royal Society* and the *Biochemical Journal*, and up to the outbreak of war he continued to produce a steady series of papers in his particular field of physical chemistry applied to biological systems. He then showed himself equally capable at quite the highest level in applying theoretical results to immediate practical objectives, namely, the dehydration of egg and the storage of dried material.

Brooks held an established position as the leading Government consultant in Great Britain on all matters concerned with the handling and storing of eggs. During the period 1943-47 he was lent to the then Ministry of Food for various periods, in the course of which he visited the Argentine, United States, Canada and Australia in connexion with the Ministry's programme for the manufacture of dried egg and, afterwards, for full-scale trials of sugar-dried egg production. Later he again visited Australia as a member of the British Food Mission. After the War the emphasis of Brooks's work turned from dried to shell eggs, and again his knowledge, skill and personality were called on by the Ministry of Food to help in the solution of problems in countries exporting eggs to Britain. In 1948 and again in 1950, he visited Poland in response to a request from the Polish Government for help in finding a solution to difficulties which had arisen in the preparation of frozen pasteurized egg in fulfilment of orders placed by the Ministry of Food. Brooks was the only person in Britain possessing the specialized knowledge for this task, and he was able to discover the cause of the trouble and suggest a solution completely satisfactory both to the Polish Government and the Ministry.

Although such calls for Brooks's services seriously interrupted his supervision of laboratory investigations, he continued to exercise a firm control over