

with which his lively mind abounded, made him an unforgettable and delightful personality. He is survived by two sons, but the sudden death of his wife, Elda, in 1954 was a sad blow which affected him far more deeply than many who knew him may have realized.

A. H. COOK

My close friendship with Ian Heilbron dates from near the end of the First World War and arose from many common interests and activities. These included consultation with industrial research groups, membership of committees under government auspices and tenure at different times of the chairs of organic chemistry at the Universities of Liverpool and Manchester. Heilbron was, of course, an illustrious organic chemist whose reputation was world-wide and whose original work could justly be described as pioneering. As Dr. Cook has pointed out, he did not always enjoy the full fruits of his labours. Others stood on his shoulders and were thus enabled to reach higher. A part of his work was in fields of potential commercial importance and doubtless for this reason some of his discoveries were impatiently exploited.

Heilbron had much courage of his very firmly held convictions, and did not fail in finding words to express them. He caused many a breath of fresh air to pass over the conference tables, especially when he thought progress was too slow or where he detected evidence of red-tape mentality.

His contributions in the Second World War were extremely valuable. If he had not been a scientist he could have become a most successful business man and his executive activity was characterized by promptitude and efficiency. Every laboratory which came under his charge was greatly improved, not merely by new construction but also by better considered organization of existing facilities. His attention to detail in these connexions was very characteristic. As an investigator he also excelled in planning the campaign and was instrumental in the introduction of important novel techniques.

In private life his friends found him quite charming, an excellent host and a greatly appreciated guest. He was fastidious and had a most sensitive appreciation of the fine arts. Above all he was a warm-hearted, generous man who devoted himself to public service and to the progress of science.

R. ROBINSON

NEWS and VIEWS

Astronomy at St. Andrews: Prof. E. F. Freundlich

PROF. E. FINLAY FREUNDLICH, who four years ago retired from the Napier chair of astronomy at St. Andrews, relinquishes now also his directorship of the University Observatory. Prof. Freundlich started his astronomical life some forty years ago at the Berlin Observatory. Much of his work was determined by an early association with Einstein which made him pursue the question of observational tests of the theory of relativity. In order to investigate the predicted red-shift of spectrum lines, Freundlich created in the early 'twenties at Potsdam the well-known Einstein Institute with its tower telescope. The new solar installation, among the best of the time, produced new observational evidence on the 'limb' effect, and also important pioneer work on line profiles. Freundlich's main contribution to the field of relativity astronomy is undoubtedly his eclipse work on the deflexion of light at the Sun's limb. His results of 1929 are still among the best obtained on this extremely difficult problem, and his conclusion that the observed deflexion exceeds the theoretical value is now generally accepted. Prof. Freundlich left Germany in 1933 and after a few years in Istanbul and Prague settled in St. Andrews in 1939. Here he became interested in the design of a large Schmidt-Cassegrain telescope. A 19-in. pilot model was successfully set up in 1950, and the main parts of the full-size 37 in. telescope are now nearing completion. In the University, Freundlich instituted an honours course in astronomy, in which he paid particular attention to his favourite subject of celestial mechanics. It is pleasing to know that when Prof. Freundlich returns to his native Rhineland, an association with the University of Mainz will allow him to retain an active interest in astronomy.

Prof. D. W. N. Stibbs

DR. D. W. N. STIBBS succeeds Prof. E. Finlay Freundlich in the Napier chair of astronomy at

St. Andrews. A graduate of the University of Sydney in physics in 1942, Dr. Stibbs gained his early astronomical training at the Commonwealth Observatory under the Astronomer Royal, Dr. R. v. d. R. Woolley; afterwards they were co-authors of the well-known monograph "The Outer Layers of a Star". Engaged as lecturer in mathematical physics at Armidale in 1942, Dr. Stibbs was seconded from there to work for the Royal Australian Air Force on the influence of the ionosphere on radio direction-finding. He returned to Canberra after the War and was appointed Radcliffe Travelling Fellow in Astronomy in 1951, and worked first at the Radcliffe Observatory, Pretoria, and afterwards at Oxford where he gained his D.Phil. in 1954. In 1955 he joined the Theoretical Physics Division at the Atomic Weapons Research Establishment, Aldermaston, where he has been engaged in theoretical research on the interaction between radiation and matter under stellar conditions. He is probably best known for his fundamental work on the motions of the southern galactic Cepheids as determined from his own consummately planned observations at the Radcliffe Observatory. In a discussion of the motion of these stars and of those earlier observed by Joy at Mt. Wilson, Dr. Stibbs revealed a marked discrepancy in the neighbourhood of the galactic centre between the rotation of the Cepheid System and the neutral hydrogen clouds.

California Institute of Technology:

Dr. Richard P. Feynman

DR. RICHARD P. FEYNMAN has been appointed Richard Chace Tolman professor of theoretical physics at the California Institute of Technology. The trustees created the new chair in physics in honour of the memory of the late Dr. Richard Tolman, an internationally known theoretical physicist and chemist who for years was dean of graduate studies at the Institute. Dr. Feynman is considered to be one of the world's outstanding theoretical physicists for his contributions to the understanding of atomic