

obligations to industry and to the Trade Union movement and its aims.

It was recognized that the demand for Trade Union education was very difficult to stimulate, and this was widely felt to be the fundamental obstacle to expansion. There was general agreement that full advantage was not being taken of existing facilities.

In considering the structure of Trade Union education it should be stated that the British Trade Union movement lacks a systematic structure and a fully authoritative and financially well-equipped co-ordinating body. It cannot do more than work gradually towards a complete and systematic union education. The individual Union will be for some time yet the unit of authority, of finance, and of educational policy, and the growth of Trade Union education and its co-ordination will depend on the relations of the educational bodies concerned with the Trade Unions the requirements of which have to be satisfied. The phases of Trade Union education in which the need for further development is obvious are: informal educational activities at the branch Trade Union meeting; training in the skills required in active work for the Trade Union movement; and the education of branch officers and lay representatives in practical and policy aspects of Trade Union action. A beginning has already been made in these directions, and further development depends on finance, supply of tutors, the use of appropriate methods, and the effective organization of the demand.

Experience already gathered in Trade Union classes shows the necessity for providing preliminary training in the 'tools of study' for some students selected for intensive courses. This has its impact on the general conduct of Trade Union business through the frustration which results when people are inadequately equipped to shape and express their opinions. The working party recommends that experiments should be carried out into ways of covering more adequately the legitimate demands for training in self-expression, meeting procedure, case preparation, and reporting, without encouraging glibness in public speaking or a tiresome obsession with procedure. Branch officers and lay representatives should also be trained in the practical skills involved in Trade Union action. These include secretarial practice, chairmanship, public speaking and the making of reports, committee and meeting procedure, the handling of documentary material and dealing with complaints and grievances.

The development of specific educational classes for trade unionists is beset by difficulties arising out of the Ministry of Education's grant regulations for adult education classes. These classes can be arranged by local education authorities on a grant-earning basis; they cannot be arranged by the Workers' Educational Association. What is needed is freedom for the Association to undertake development experimentally in various types of Trade Union education, and for this purpose to be able to disregard, within reason, the limits imposed by adult education regulations. It is important in Trade Union education to build on the immediate interests and experience of the students. Different types of approach will be required, and experience outside liberal adult education must be taken fully into account.

The supply of tutors for Trade Union education may easily become a bottleneck limiting or distorting development as the demand begins to grow. It is not known whether there are unused teaching resources which could be brought into action if an

enlarged demand for Union education were experienced, and whether the supply could be increased by the provision of training courses. In developing the less academic types of Trade Union education it may be possible to draw on trained teachers who are not in universities or grammar schools, on Trade Union officers, and on others who have special knowledge or aptitude.

There is not a large number of university or Workers' Educational Association tutors who, in the post-war period, have made a special study of Trade Union questions, and only a minority will have had any industrial experience. If tutors are to do successful work in Trade Union education they should become familiar with the activities and policies of Trade Unions, and be able to gain the confidence of the people with whom they will work.

The working party also considered the part played by other organizations in Trade Union education, like the National Council of Labour Colleges and Ruskin College, and suggested that greater co-ordination would be achieved by setting up a central Trade Union education bureau, the function of which should be to collect and disseminate information about activities and experiments in the field of Trade Union education, to make available books, pamphlets and other educational material found to be needed, and, generally, to stimulate and to guide interest in Trade Union education in a variety of ways and to provide assistance to individuals and groups engaged in it.

T. H. HAWKINS

## OBITUARIES

Prof. F. C. Chalklin

PROF. F. C. CHALKLIN was born in 1902 and received his school education at Judd School, Tonbridge. He entered King's College, London, with a leaving exhibition and graduated in 1923 with honours in physics. For the four succeeding years he carried out research work on soft X-rays with Prof. (now Sir) Owen Richardson, obtaining the Ph.D. degree in 1926. He was appointed assistant lecturer in physics in the University of Sheffield in 1927 and three years later became a lecturer at University College, London. In 1939, two years after obtaining the D.Sc. degree, Chalklin was appointed a reader in the University of London. During the Second World War he was in charge of that part of the Physics Department of University College which was evacuated to Aberystwyth. Soon after the War, in 1946, he was appointed professor of physics in the University of New Zealand at Christchurch. It was on a visit back to Britain that the tragic air disaster at Singapore terminated a devoted and successful career.

Chalklin's experimental work was mainly concerned with the spectroscopy of soft X-rays, a subject in which he was a world authority. He built several grating spectrographs, with which he obtained valuable results. The greater part of his research work was carried out single-handed, or with the collaboration of his wife, Miss L. P. Davies, whom he met in the research laboratory at King's College, London. He had thrown himself with vigour into the task of building up a research school in Christchurch and his recent publications showed that much progress to this end had already been made.

Chalklin was meticulously careful as a research worker and equally so as a teacher and examiner. He was a very pleasant colleague to work with, always being anxious to take his full share of the work of a university department. His quiet and charming manner was associated with a friendly and sociable disposition. Although his natural enthusiasm was primarily devoted to physics, he possessed the Kentishman's love of cricket and of games in general—he played tennis and badminton.

Prof. Chalklin leaves a widow and three children (one son and two daughters). He will long be remembered by his former colleagues at University College, London, who have welcomed this opportunity of recording their appreciation of past associations with him and their deep sorrow at the untimely end to his career.

H. S. W. MASSEY

#### Mr. A. A. Pearson

By the death of Mr. A. A. Pearson on March 13, British mycology has sustained a great loss.

Arthur Anselm Pearson was born on April 12, 1874. He attended a school in Belgium for some years, but at the age of fifteen entered the firm of British Belting and Asbestos, Ltd., of which company he eventually became director and chairman. For the purpose of building up a large export trade, he set himself to learn foreign languages, and became a fluent speaker and writer in French, German, Spanish and Italian, an accomplishment which was also to be of great value in his scientific work. He took up the study of botany as a hobby, starting with wild flowers, but soon becoming attracted to the larger fungi. He loved foraging in the woods near his home, and was an excellent collector. At first he was interested in the lower Basidiomycetes, but later turned his attention more especially to the Agaricaceae, to the study of which he applied modern microscopic and chemical technique. He became well known both in Britain and abroad as an authority on the agarics, and during the season was kept busy naming specimens and answering queries sent by correspondents.

Pearson joined the British Mycological Society in 1911, and from 1919 until 1946 served the Society as its treasurer; he was president in 1931 and again in 1952, when he attended the foray held in Normandy in conjunction with the Société Mycologique de France, and delivered his presidential address in French. In 1946 he was made an honorary member of the British Mycological Society and in the same year was elected president of the Yorkshire Naturalists' Union. He became a Fellow of the Linnean Society in 1917. He was also a member of the Société Mycologique de France and of the Mycological Society of America. He regularly attended the forays organized by the British Mycological Society and also often those of the Société Mycologique, and was always most courteous and helpful to students who sought his assistance. After he settled at Hindhead, he became closely associated with the Haslemere Educational Museum, of which Mr. E. W. Swanton was then curator, and during the Second World War he took an active part with Mr. Swanton in collecting fungi to be tested at Oxford for the presence of antibiotics.

In 1948 he was invited by the Federal Government to visit South Africa in order to assist workers there in the study of the agarics of the Union. The result was an interesting paper describing many new species, published in the *Transactions of the British Myco-*

*logical Society* (1950). Numerous scientific papers published between 1915 and 1950 have added much to our knowledge of the British fungus flora, and many of the younger mycologists use with gratitude his keys to various difficult genera.

In addition to his scientific work, Pearson was interested in music, and was known as a singer of unaccompanied folk-songs. On more than one occasion he filled in a blank evening at forays of the British Mycological Society by entertaining members in this way. His genial presence and his energy and helpfulness will be greatly missed.

E. M. WAKEFIELD

#### Mr. F. K. Goward

FRANK KENNETH GOWARD, who died on March 10, was a senior principal scientific officer in the Department of Atomic Energy. Born on August 30, 1919, he was educated at Queen Elizabeth's Grammar School, Wakefield, whence he was awarded a major open scholarship at St. John's College, Cambridge, in 1938. After only two years at the University, he took an honours degree in physics and, in 1940, he was directed to take part in the vital task of calibrating radar-chain stations. After service in Scotland, Mr. Goward joined the Telecommunications Research Establishment in Malvern in December 1942, where he quickly established a reputation as an able research worker.

Soon after the end of the War, Mr. Goward transferred to the staff of the newly formed Atomic Energy Research Establishment to take a leading part in the design of a novel particle accelerator, the electron synchrotron. By November 1946, collaborating with D. E. Barnes, he had established the validity of the new principle by accelerating electrons from 4 to 8 MeV. This was the start of a career of intense scientific activity during which Goward became an internationally recognized authority not only on the design of particle accelerators, but also in their use in ( $\gamma, n$ ) studies of the nucleus. A man of remarkable energy, he took part in the design of the University of Glasgow 300-MeV. electron synchrotron, the 140-MeV. machine for the University of Oxford and the 30-MeV. machine at the Atomic Energy Research Establishment at Harwell.

In 1950 Mr. Goward was invited to attend a committee of scientists called together by Unesco. From these early discussions, plans were developed for an international laboratory under the auspices of the Council for European Nuclear Research (C.E.R.N.). In 1952 Mr. Goward was appointed deputy director of the group responsible for the design study of a proton synchrotron to give a proton beam with an energy greater than 10 GeV. By October 1953 the work had progressed to the stage when it was necessary to bring together the scientists working on this project. Goward was granted leave of absence to join the Council's staff, and moved with his family to Geneva. There he became active in the setting up and scientific direction of the Group. In February he became seriously ill and had to return to Britain.

Frank Goward was an outstanding young physicist; during his career he presented many scientific papers covering a wide field of research. His ability, combined with an irrepressible sense of humour, earned him great respect among his many friends and colleagues. We offer our deepest sympathy to his wife and two young children.

D. W. FRY