

d.c. There are also available two motor generator sets giving 100 amp at 240 V. In these laboratories, special panels designed in the Department are used. These panels, which may be regarded as engraved line diagrams, provide sufficient information for students to understand the arrangements for supply and when necessary modify connexions relatively easily. The various connexions throughout the Electrical Department enable pieces of equipment to be connected electrically from one laboratory to the other without much difficulty. This flexibility is regarded as a considerable asset.

In the Chemical Engineering Department the supplies of electric power are much simpler but are substantial in quantity. The general scheme is to arrange bus-bars either at one level or, in the case of the pilot plant laboratory, at two levels. Tappings from these bus-bars can readily be obtained at any desired position, but a number are fitted in for initial operation.

The Chemical Engineering Laboratories are also provided with compressed air, gas, water, and in many cases steam at 100 lb./in.². There are no general facilities either for vacuum or for hot water, but these can be provided when required for individual pieces of equipment.

Research and Teaching

Both the Engineering Departments have some special laboratories for research purposes, but in many cases, particularly in the Chemistry Section, the research and undergraduate teaching are combined so far as possible. Some special facilities in the Electrical Area include a screened room and a high-voltage laboratory. They are also provided with equipment for developing analogue computers and electronic circuitry. On the heavy current side, work is mainly on speed control of motors.

In Chemical Engineering the research activities are broadly related to the new field of electro-chemical engineering, for which there is a large special laboratory, to com-

bustion research, reactor design, and to the field of high-intensity heat transfer. Again, both Engineering Departments have their own workshops covering machine work, electronic work, instrument work and glass technology.

The top floor, mainly devoted to the Department of Mathematics, gives an added sense of lightness as a result of the fitting of a number of glass domes on the flat roof. In this section, the architects have successfully provided a little more perambulatory space, some of which is available on two terraces outside the normal rooms. The greatly enlarged premises for Mathematics are a source of considerable pleasure since this Department has managed to grow rapidly to one of those providing a significant contribution to the training in this key discipline. They have active research work in hand in functional analysis, group theory, mathematical logic, potential theory, continuum mechanics, fluid dynamics, relativity and mathematical statistics.

To the visitor and to those who work in it, there is no doubt that this building represents a step forward in the general style for the University. The large area of walls finished in white with rather light ceilings gives an air of space which is much appreciated. The wide variation in heights of room and the interesting development of the common-user lecture block facing south all help to excite the visitor and give the permanent dweller satisfaction. To have fitted three such different departments into the same block and woven them to form a united home is an undoubted achievement, and those who work there will be indebted to the architects, Messrs. Richard Sheppard, Robson and Partners. Each of the departments has a strong postgraduate research school, and Merz Court can be looked on as one of the major centres of new development in the north-east.

In the course of his tour round the building, the Prime Minister pointed out the general importance of modern technologies and the need for each part of the country to play its individual part in a successful community.

OBITUARY

Prof. John E. Driver

PROF. JOHN E. DRIVER, who died in Winchester on March 27, was the youngest son of Frederick and Mary Eleanor Driver, and was born in Montserrat in the West Indies on October 26, 1900. He left Montserrat at the age of ten and continued his education at West Buckland School in Devon and High Pavement School in Nottingham, from which he won a scholarship to what was then University College, Nottingham. He was remarkably advanced for his age, and as a student during the First World War, doing part-time training in the Officers Training Corps, read for an honours degree in chemistry under Prof. F. S. Kipping, and graduated at the early age of nineteen. The commanding officer of the Officers Training Corps, Major S. R. Trotman, was city analyst and part-time lecturer in applied chemistry, and Prof. Kipping also assisted the Corps as musketry instructor, so that there was close integration of his academic and military studies. This occurred in another form in his service during the Second World War.

Driver was appointed to the staff of University College, Nottingham, in 1920 and remained there until 1938 when he left to take up a similar post at Cambridge, which he held until the end of 1945, though absent on war service for much of the time. Although conditions for research at Nottingham in the pre-war years were difficult and formal teaching duties very heavy, he began research which continued throughout his career, making important contributions to such topics as the chemistry of crude drugs, dyes of the aurin type, the Fries re-arrangement, and

phenol aldehyde reactions, publishing mainly in the *Journal of the Chemical Society*. He was a lucid and inspiring teacher to pharmacy as well as chemistry students and was popular with staff and students alike. For some years he was an examiner of the Pharmaceutical Society of Great Britain. He showed a flair for authorship too, especially in the field of pharmaceutical chemistry and the chemistry of crude drugs. In collaboration with A. O. Bentley he published the *Textbook of Pharmaceutical Chemistry* in 1925, and was largely responsible for the revision of this book in the several new editions produced in the subsequent 40 years. He also published, with G. E. Trease, *The Chemistry of Crude Drugs*. His other books were *Bakery Science* and *Tables of Qualitative Analysis*, and he was checking the proofs of the seventh edition of the popular *Analysis* book at the time of his death. His career at Cambridge had scarcely begun when it was interrupted by the Second World War. His qualifications and experience led him naturally in the Services into the Chemical Warfare Branch of the Royal Engineers. His service in the Army during 1940-45 included a period of two years at the School of Chemical Warfare at Winterbourne Gunner as brigade major, as well as periods with the 21st Army Group and the War Office.

Driver became the editor of the *Journal of the Chemical Society* in 1946, filling this office very effectively until 1949 when he accepted the invitation to become professor of chemistry in the University of Hong Kong. He took up his appointment on April 11, 1949, and filled it with distinction until an intermittent but serious illness forced him to retire on March 11, 1960. The Faculty of Science

in the University of Hong Kong had been formed only just before the Second World War, though chemistry, physics and mathematics had been taught earlier within the Faculty of Arts. The newly created Faculty had its first meeting on July 4, 1939. Development was interrupted in December 1941 by the invasion of Hong Kong, when the University was forced to close. It did not re-open until 1946 and had to start again almost from scratch. In this vital phase of re-establishment and expansion he played an important part. He planned a new chemistry building, completed in 1953 and described in the *Proceedings of the Chemical Society* in 1958, which has proved one of the University's finest buildings. He was able also to resume his research activities. Perhaps his main contributions were nevertheless in the exercise of his flair for clear thinking, clear presentation of views, and as an administrator. He was elected dean of the Faculty of Science in November 1950 and held office continually until November 1959. His talents as an author were particularly helpful in his duties as chairman of the Board of the University of

Hong Kong Press. His valuable services were, however, by no means confined within the University. He acted several times as external examiner in the University of Malaya. He took also a great interest in extra-mural affairs. He served as a Justice of the Peace. He served also on the Hong Kong Government Pharmacy Board and Dangerous Goods Committee. He was a Fellow of St. John's College in the University and a member of the Council of St. John's Cathedral in Hong Kong. His notable contributions to all aspects of University life led the Senate to confer on him the title of *emeritus professor* on his retirement.

Despite poor health, retirement did not end his professional career entirely. He continued to revise his books, and the University of Hong Kong was very glad to have his continued service as its representative in the United Kingdom. He retired to Hampshire, where country life and the devoted care of his wife brought back a measure of health and the ability to sustain his professional and other interests.

J. MILLER

NEWS and VIEWS

Director-General of the Meteorological Office :

Sir Graham Sutton, F.R.S.

SIR GRAHAM SUTTON, who will be retiring from his position as director-general of the Meteorological Office on September 30, was appointed head of the Office in 1953 after unusually varied experience in Government Science: superintendent of research at the Chemical Defence Experimental Establishment, Porton; superintendent, Tank Armament Research; chief superintendent, Radar Research and Development Establishment, Malvern; and latterly as Bashforth professor of mathematical physics and dean of the Royal Military College of Science. His personal scientific reputation rested on his pioneer researches in diffusion and other problems of the Earth's atmospheric boundary layer, consolidated by his textbook *Micrometeorology*, which appeared first in 1953 and has become the standard text. Under his direction the Meteorological Office has undergone numerous changes towards meeting its primary task of providing a national meteorological service, its hitherto dispersed headquarters have been unified at its new and impressive scientific and administrative centre at Bracknell, Berkshire, and Weather Centres, open to the public, have appeared in a number of cities; but perhaps the large development of the research side of the Office, to the status of a directorate employing some sixty research scientists with high-speed computers and other modern facilities to match, will come to be regarded as his most far-reaching innovation. He leaves the Meteorological Office as a well-founded, up-to-date, scientific institution. Fortunately, in his new post as first chairman of the Natural Environment Research Council (*Nature*, 205, 748; 206, 873; 1965) his wide experience and proved ability will continue to be devoted to the benefit of science for some time to come.

Prof. B. J. Mason, professor of cloud physics in the Imperial College of Science and Technology (*Nature*, 188, 781; 1960), has been appointed to succeed Sir Graham Sutton as director-general of the Meteorological Office.

Controller in the Ministry of Technology :

Dr. J. B. Adams, C.M.G., F.R.S.

THE Minister of Technology, the Right Hon. Frank Cousins, has appointed Dr. J. B. Adams, director of the Culham Laboratory of the U.K. Atomic Energy Authority, to be controller in the Ministry of Technology. In addi-

tion to his duties with the Ministry, Dr. Adams will continue to direct the work of the Culham Laboratory.

John Bertram Adams, who is forty-five years of age, entered Siemens Research Laboratory from Eltham College. He was employed between 1940 and 1945 in the Telecommunications Research Establishment, Malvern, and afterwards in the Atomic Energy Research Establishment, Harwell. During 1953-61 he served with the European Organization for Nuclear Research (CERN) at Geneva, for the last fifteen months as director-general. As director of the Proton Synchrotron Division, he was responsible for the design and installation of the highly successful 28-GeV proton synchrotron which is the major equipment of the laboratory. In 1961 he rejoined the U.K. Atomic Energy Authority as director of the newly established Culham Laboratory. Dr. Adams was made a Companion of the Order of St. Michael and St. George in 1962. He was awarded the honorary degree of D.Sc. by the University of Geneva in 1960 and by the University of Birmingham in 1961. Dr. Adams was elected a Fellow of the Royal Society in 1963.

Mathematics in the Imperial College of Science and Technology : Prof. G. E. H. Reuter

PROF. G. E. H. REUTER has been appointed professor of mathematics in the Imperial College of Science and Technology from October 1965. For the past six years he has been professor of pure mathematics at the University of Durham. Educated at Trinity College, Cambridge, he took up his first appointment, in the Scientific Civil Service, in 1941. In 1946 he moved to the University of Manchester where he was made senior lecturer in 1955. His research has been chiefly concerned with the analytic theory of Markov chains. The development of a population of any kind may be viewed as a random process and a Markov chain may be thought of as a far-reaching generalization of such a process. While Prof. Reuter has, for example, made a study of competition between insect populations, his most important work concerns the theory of general Markov chains. In the case of populations, one assumes known the birth and death rates at the possible population sizes and attempts to deduce various aspects of the population behaviour from these. To solve the analogous problems in general is perhaps the main aim of Markov chain theory. Prof. Reuter has shown that operator theory is a natural tool for tackling