

## NEWS and VIEWS

## Chair of Logic and Metaphysics at Edinburgh

Prof. N. Kemp Smith

FOR more than a century, largely on account of the eminence of its occupants, the chair of logic and metaphysics in the University of Edinburgh has been very generally, although quite unofficially, regarded as Scotland's premier philosophical chair. Since 1836 there have been four occupants, Sir William Hamilton (1836-1856), Campbell Fraser (1856-1891), Pringle-Pattison (1891-1919) and Norman Kemp Smith from 1919 to the end of the present academic session, when he retires. All four were celebrated for their mastery of the history of ideas, particularly in the eighteenth century and around it: Sir William Hamilton by work which, nominally at least, took its origin from Thomas Reid, Fraser by his unwearying labours on Berkeley, Pringle-Pattison by his dominant neo-Kantianism, and Kemp Smith by his massive study of Kant and of Hume. It is not very reckless to suggest that the last of the four professors surpassed all the others in this common tradition. Our standards in this field are very much higher in the present century than in the last, and only partially because the last had done so much. The intensive study of Kant which is so marked a feature of contemporary British academic philosophy owes more to Kemp Smith's "Commentary" than to the pen of any other English-writing author. His work on Hume, beginning with two masterly articles in *Mind* (1905), and continued in his edition of Hume's "Dialogues" (1935) has (perhaps) concluded with his "Philosophy of David Hume", a book which outstripped all other contemporary work on Hume, British or foreign, by a very comfortable margin. Kemp Smith brought to his classroom the high qualities that he showed in his writings; and all his varied contacts with students, colleagues and the public gained, in addition, from his broad humanity, his deep interest in the social problems of the present day and his catholic appetite for modern history and biography. He knew the United States well, for he was professor in Princeton between 1906 and his return to Europe to serve in the Ministry of Information during the War of 1914-18, and, in 1923, he was a visiting professor in Berkeley, California. A friend to both sides of the Atlantic, he was, is, and, one hopes, will long continue to be, one of the strongest links in the chain of Anglo-American unity and understanding in academic affairs.

Prof. A. D. Ritchie

IN inviting Prof. A. D. Ritchie, at present professor of philosophy in the University of Manchester, to succeed Prof. Kemp Smith, the electors have shown a courageous readiness to avoid too rigid an adherence even to a tradition so firmly established, for Prof. Ritchie, who has accepted the invitation, is as much a man of science as a philosopher. They may, indeed, be renewing the tradition. Sir William Hamilton, among his many pre-professorial activities, had studied medicine and had qualified for the Bar. Superficially, however, there is something like a break in the tradition. Prof. Ritchie's principal philosophical books are about scientific method and the natural history of mind. His other book deals with the comparative physiology of muscular tissue. His fellowship at Trinity College, Cambridge, was earned for his work in chemistry, and he was a

lecturer on chemical physiology in Manchester before succeeding J. L. Stocks in the chair of philosophy there. Some may think that first-hand acquaintance with the inferences of experimental science, accompanied by writing upon its general theory, is the best possible preparation for the teaching of logic. As for philosophy in a wider sense, including metaphysics, Prof. Ritchie's varied articles upon many themes, religion and sociology among them, give ample evidence of his interest and capacity. He began, too, in a very favourable environment, his father, D. G. Ritchie, professor of logic in the University of St. Andrews, though he died rather young, being still gratefully remembered as the most brilliant writer among Scottish philosophers at about the turn of the century.

Alexei Abrikosov

ALEXEI ABRIKOSOV has been awarded the title of Hero of Socialist Labour by the Government of the U.S.S.R. Prof. Abrikosov has just celebrated his seventieth birthday. He is a leading specialist in pathological anatomy. He has been successful in combining a theoretical subject with the practical work of a clinic, and was the founder of a new anatomico-clinical branch of pathological anatomy. At the very beginning of his career, Prof. Abrikosov studied the relationships between disease-bearing micro-organisms and the protective powers which the human organism possesses. Allergy, one of the complex problems which arise from this, naturally attracted his attention. He has carried out extensive research on the morphology of the vegetative nervous system and its pathological condition. Applying methods of pathological anatomy, he has made a detailed study of the morphological changes which take place in the tissue as a result of metabolic disorders, avitaminosis and hypo-avitaminosis. For many years Prof. Abrikosov was at the Botkin Hospital, one of the largest in Moscow, and for twenty-five years has held the chair of pathological anatomy at the First Moscow Medical Institute. He was awarded a Stalin Prize for the two volumes already published of a work on pathological anatomy. Prof. Abrikosov still continues active research and teaching.

## Research Development and Tax Relief

IN his Budget speech last year, the Chancellor of the Exchequer undertook to provide reliefs of income tax for industry and agriculture during the reconstruction period after the War. A Bill to give effect to these proposals has now been introduced in the House of Commons. So far as scientific research is concerned the allowance given in the Finance Act 1944 (see *Nature*, May 6, 1944, p. 542) is now to be extended to payments made after April 6, 1944. An allowance is also to be made for expenditure for buildings, plant and machinery for research incurred after January 1, 1937. Other proposals are concerned more directly with industry. Allowances are to be made for second-hand as well as new plant. A welcome sense of the well-being of personnel is shown by the inclusion, among industrial buildings qualifying for allowances, of those concerned with welfare, such as sports pavilions. An annual allowance for a period of years is proposed in respect of capital expended on purchasing patent rights after "the appointed day", and a corresponding charge is to be made against vendors of a patent. Agricultural buildings and works will qualify for allowances,

as will also houses built for workers at mines or oil wells which will be useless when the mines or wells are exhausted. The new allowances will apply to expenditure incurred since April 1, 1944.

### University of Birmingham

AMONG other matters dealt with by Dr. Raymond Priestley, vice-chancellor of the University of Birmingham, in his annual report to the Court of Governors, is the part to be played by the universities in making possible the great increase of exports of Britain which will be a vital necessity for us in the post-war world, when a premium will be put on industrial efficiency in every field. One contribution is through the production of an increased flow of engineering graduates of the finest possible quality, from among whom will be found not only the professional engineers of the next generation but also men to fill high executive positions in industry. With this object the University of Birmingham is seeking to rebuild and re-equip its Departments of Mechanical and Electrical Engineering. The private appeal to local firms last year for £250,000 has already met with a gratifying response. No specialization can be admitted in the undergraduate stage, though fundamental work in the University engineering laboratories must be supplemented by vacation courses in industry itself. Nevertheless, something more than this preparation is needed by those among our best engineers whose aptitude and potential capacity attract them to administrative and managerial functions.

A gift from Messrs. Joseph Lucas, Ltd., of £112,000, under a seven-year covenant, for the establishment and maintenance of a chair and University lectureship in production engineering, gives a prospect of meeting the need. The University of Birmingham, which serves an area containing the largest concentration of the engineering and metal-working industries in the United Kingdom, is in every way suited to be the home of this development, and the University has agreed to institute a postgraduate course in production engineering, at present to be contained in the Department of Mechanical Engineering. The objects of the new development are to foster through research the full development of every aspect of the science of production engineering and the education through special postgraduate courses of a supply of men who possess not only a sound grasp of the fundamentals of engineering but also a specialized knowledge of production methods and processes and the varied aspects of organization and control. Such a course considerably lengthens the period of engineering education in these special cases, and problems of maintenance of students will be involved. To finance this aspect of the scheme through the first few years, Sir Peter Bennett has generously given £10,000.

### Development of the Oil Industry

At a meeting of the Manchester University Branch of the Association of Scientific Workers on February 1, Dr. H. Steiner gave a lecture on the development of the oil industry. Oil was first produced industrially in 1859, when 300,000 gallons were obtained; by 1938 the production of crude oil had risen to 70,000 million gallons. In the last century the most important product was kerosene; since 1900 the advent of the motor-car has shifted the importance to the lighter fractions of the crude—mainly petrol. Due to the increased demand for the light fraction, production became unbalanced, in that too much high-

and too little low-boiling fractions were produced. This was remedied by the cracking process, which by applying heat and pressure, produces lower boiling hydrocarbons from the higher boiling ones.

Later, the demand arose for high-quality petrol for improved automobile- and particularly aero-engines. Branched-chain paraffins were produced which are more resistant to 'knocking' than straight chains and can be used in engines working at high compression and thus high efficiency. The first branched-chain paraffin produced commercially was 'iso-octane' (2-2-4 trimethylpentane). This is made from *iso*-butylene, a constituent of the cracking gases. To-day very large amounts of branched-chain paraffins are produced from these gases by combining *iso*-paraffins such as *isobutane* and olefines (for example, butene) in the 'alkylation reaction'.

A later development to produce high-quality petrol is cracking in the presence of catalysts, which assist in forming branched-chain hydrocarbons. The main technical difficulty is that, in the course of the reaction, carbon is deposited on the catalyst and destroys its activity. By burning off the carbon under carefully controlled conditions, avoiding overheating, the activity can be restored. The most recent method employs so-called 'fluid catalysts', that is, very fine powders, which are dispersed in the hydrocarbon vapours and then passed through the reactors. On emerging from the reactors the catalyst is separated, dispersed in air and then passed through a second heated zone where the carbon deposits are burned off. It is then ready to be used again. A very important development is the production of chemicals from petroleum, mainly from the cracking gases. Finally, probably the most important synthesis is that of butadiene. Of about 600,000 tons required for the United States synthetic rubber programme, about 400,000 tons are made from petroleum, mainly by the dehydrogenation of butene over catalysts at high temperatures.

### Animal Concealment and Flash Coloration

MOMENTARY display by animals of conspicuous colours followed by reliance upon procrypsis has long been known. Jenner Weir (*Trans. Ent. Soc. Lond.*, 22; 1869) directed attention to the conspicuous hind wings exhibited in flight by many otherwise cryptic moths and *Oedipoda* grasshoppers, and Lord Walsingham, in 1890 (*Proc. Ent. Soc. Lond.*, 52; 1890), suggested that the sudden change when such flying insects came to rest serves to confuse the visual impressions of a pursuing enemy. H. B. Cott, in his work "Adaptive Coloration in Animals" (1940), devoted several pages and many figures to this 'flash coloration'. An interesting new example of the principle has been described in a letter from Staff-Sergeant J. E. Marson (6th (East Africa) Inf. Bde. Workshops, E.A.E.M.E., South-East Asia Command). "In Ceylon I have noted the effectiveness of the same principle as applied to certain species of spiders. The female of *Herennia ornatissima* (Doleschall) is a medium-sized spider, grey and brown above, with the underside of the abdomen and cephalothorax having brilliant yellow, orange or red markings, according to the maturity of the spider. It spins its web on rubber trees, from stumps of branches to the main trunk. The web is nine inches to a foot in length, and is very close to the trunk at all parts. The centre of the web is tubular and is fastened to the trunk by the tip of the tube. In this tubular depression, the female rests, almost perfectly camou-