Table 2

		Element (%)	Alloys (%)	Coatings (%)	Compounds (%)	Recovered (%)	Recoverable stock in use (mill. tons)
Tin	used	4	46	48	2	32	1·5
	recovered	2	24	6	0		
Copper	used	57	39	—	4	58	40·0
	recovered	38	20	—	0		
Zinc	used	7	45	36	13	29	11·0
	recovered	4	25	0	0		
Lead	used	40	40	—	20	60	32·0
	recovered	32	28	—	0		
Antimony	used	—	60	—	40	45	0·5
	recovered	—	45	—	0		

protective coatings. Tin is recovered satisfactorily from tinplate; but a reduction in the thickness of the tin coating might easily prevent effective recovery and result in an increased overall consumption. Other factors which can have a deterrent effect on recovery of secondaries are the insistence on unnecessarily low contents of impurity in specifications and the introduction of new alloys containing troublesome elements, such as tellurium in lead. Mr. Jones concluded by saying that reserves of the heavy non-ferrous metals, primary and secondary, are sufficient to supply the non-replaceable uses "for a time stretching well beyond that within our power to foresee".

The final paper, by Colonel W. C. Devereux, of Almin, Ltd., on the subject of "Secondary Light Metals", reviewed the development of the industry from a production by the smelters of 10,000 tons in 1935 to a rate of 100,000 tons in 1951. This represents more than a third of the total raw material used by the aluminium fabricating industry. At the present time refining of scrap for the production of pure aluminium or magnesium, though technically possible by a variety of processes, is not practised because all the metallic material coming forward can be incorporated into useful alloys. The treatment comprises sorting and fluxing to separate metallics from non-metallics. At the end of 1949 a stock of 118,000 tons of secondary aluminium alloy ingot had been built up in Great Britain, but at the present annual rate of consumption of forty thousand tons the stocks will be exhausted by the end of 1952. Current consumption of scrap arisings exceeds supply by twenty thousand tons per year. There is thus a prospect of a severe shrinkage of secondary ingot. An important factor in the future will be the slow return to use of the aluminium employed in building houses, involving 250,000 tons since 1945, and the virtual loss to Great Britain of the metal incorporated in exported manufactures. On the other hand, the increasing amount of aluminium used in packaging now becomes available for re-use in a very short cycle. Colonel Devereux's last point was that a shortage of scrap for recovery must be anticipated during the next few years, and it is of great importance to improve the efficiency of scrap salvage, collection and utilization. In the final stages of the discussion G. L. Bailey, D. A. Oliver, Dr. U. R. Evans and H. J. Miller briefly directed attention to special points.

In spite of the wide range covered by the papers and the discussions, certain clear impressions remain. The first is the confidence of the primary producers and the secondary smelters of the heavy metals that, in the long term, adequate supplies of metals will be forthcoming to meet anticipated requirements. The economists, although not pressing the contrary view strongly, appear to doubt whether this optimism has taken full account of the statistical evidence on the rapidly growing demand and of the delicate balance, at least in Great Britain, between the exportable manufactures made at home, on one hand, and the requisite imports of metals, food and other raw materials, on the other. It is not to be overlooked that, although the primary producers are hopeful of meeting any likely demand for 'non-ferrous metals' as a whole, they expect that, in achieving this, aluminium and magnesium will be substituted for some of the applications now met by the heavier metals. It was generally agreed at the conference, however, that it is well for technical metallurgists, representatives from the commercial side of the metal industry and economists to exchange views, and it would not be surprising if more meetings of the same kind were to be called for in the future.

A. J. Murphy

OBITUARIES

Prof. Allan Ferguson

Allan Ferguson, who died peacefully on November 9 at his home in Bishop's Stortford after a long and distressing illness, was born at Entwistle, near Bolton, on May 11, 1880. His scientific career began with his entry at the age of twenty-two as an exhibitioner to the University College of North Wales, Bangor, where, after graduating, he became assistant lecturer in physics in 1905, and held this post until 1919. After two years as lecturer in physics in the Manchester College of Technology, and having taken the degrees of M.A.(Wales) and D.Sc.(London), he joined the physics staff at East London (later Queen Mary) College. He retired in 1945 with the status of assistant professor and Fellow of the College.

Ferguson's special scientific interest was in general physics, particularly surface tension, and he made important theoretical and experimental contributions in this field. As a teacher he was outstanding, armed as he was with profound knowledge and exceptional power of imparting it lucidly to his students, with whom he was most popular. He will be remembered, perhaps best, for the large part he played in promoting scientific publication. The Physical Society especially owes him much. He was president during 1938–41, having been previously papers secretary for ten years; and it was he who was chiefly responsible for the initiation in 1934 of the Society's Annual Progress Reports, which he edited for the first six years. He

was also closely associated with the British Association, of which he was a general secretary from 1936 until 1946, and president of Section A in 1936. Other activities were his work as editor of the *Philosophical Magazine* from 1937 to 1948, as a member of the editorial panel of *Endeavour* from its commencement, and as advisory editor of *Nature* during 1939–40.

As a man Ferguson was great both in body and in spirit, abounding in good nature and good humour. He was a voracious reader and a lover of the best books—which enabled him always to be ready in conversation with an apt quotation or reminiscence. He was truly a good companion. But to the writer the most notable thing about him was his fortitude in adversity, to which he fell victim in his later years. The first onset was in 1933, when threatening blindness necessitated an operation for cataract, followed the next year by one for retinal detachment. This impairment of his sight hindered his reading which meant so much to him, yet he was not dismayed. Then in 1942 the malady to which he eventually succumbed began to rob him of his powers of locomotion and speech, and, after his retirement from Queen Mary College, he became more and more confined to his home. Yet, although an invalid and gradually deteriorating physically, he remained until the very end alert in mind, and managed to continue some of his reading and editorial work. Visits from friends were a source of stimulus and happiness to him; they, on their part, never left him without wondering how so brave a heart could dwell in so feeble a body. His wife Nesta, whom he married in 1919, and who by her loving care did all that was humanly possible to ease his discomforts, survives him; so does their son John. A. O. RANKINE

WE regret to announce the following deaths:

Sir Peter Buck, K.C.M.G., emeritus professor of anthropology in Yale University, and director for many years of the Bernice P. Bishop Museum, Honolulu.

Sir Cyril Sankey Fox, during 1939–43 director of the Geological Survey of India, on December 28, aged sixty-four.

NEWS and VIEWS

New Year Honours

THE New Year honours list includes the names of the following scientific workers and others associated with scientific work:

Viscount: Sir John Anderson.

K.C.B.: Dr. Harold P. Himsworth, secretary of the Medical Research Council.

K.B.E.: Acting Air Marshal C. W. Weedon, R.A.F.

Knights: Dr. George V. Allen, vice-chancellor of the University of Malaya; Prof. Leonard Bairstow, chairman of the Aeronautical Research Council; John L. Blake, comptroller-general of the Patent Office; John P. Bowen, lately engineer-in-chief to the Corporation of Trinity House; Dr. Walter Russell Brain, president of the Royal College of Physicians; Prof. Rudolph A. Peters, Whitley professor of biochemistry, University of Oxford; Dr. David R. Pye, lately provost of University College, University of London.

C.B.: R. Rae, director of the National Agricultural Advisory Service, Ministry of Agriculture; Major-General Colin Bullard, Corps of Royal Electrical and Mechanical Engineers.

C.M.G.: Walter Adams, secretary of the Inter-University Council for Higher Education in the Colonies; Dr. K. A. Davies, director of the Geological Survey of Uganda; A. de K. Frampton, agricultural adviser to the Comptroller for Development and Welfare, West Indies; S. Gillett, lately director of agriculture, Kenya, now chairman and general manager, Overseas Food Corporation, Kongwa, Tanganyika.

C.B.E.: Dr. G. L. Bailey, director of research, British Non-Ferrous Metals Research Association; Prof. B. T. P. Barker, emeritus professor of agricultural botany, University of Bristol; R. Boutflour, principal of the Royal Agricultural College, Cirencester; W. H. B. Buckhurst, director of lands, mines and surveys, Fiji; L. B. Bull, for services to science in Australia; Dr. J. M. Cowan, assistant to the regius keeper of the Royal Botanic Gardens, Edinburgh; I. H. Cox, lately director of science, Festival of Britain; Acting Air Commodore C. L. Dannl R.A.F.; V. P. A. Derrick, chief statistician, General Register Office; Dr. A. J. K. Esdaile, for services to librarianship and bibliography; F. St. A. Hartley, keeper, Science Museum; Dr. H. Hartley, chairman of Radiation, Ltd.; Prof. T. P. Hilditch, lately Campbell-Brown professor of industrial chemistry, University of Liverpool; Dr. F. M. Lea, director of the Building Research Station (Department of Scientific and Industrial Research), Garston, nr. Watford; A. E. H. Masters, chief scientific officer, Fighting Vehicles Design Establishment, Ministry of Supply; M. H. Neale, lately a member of the Scientific Fishery Research Committees of the Development Commission; M. W. Perrin, lately deputy controller, Atomic Energy Division, Ministry of Supply; Dr. D. Rebbeck, lately deputy chairman, Northern Ireland Festival Committee; N. D. Riley, keeper of entomology, British Museum (Natural History); Instructor Captain R. E. Shaw, R.N.; H. L. Stevens, principal director of equipment, research and development (air), Ministry of Supply; Brigadier R. P. Wheeler, deputy director general and director of field survey, Ordnance Survey Department; T. H. Windibank, director of Crompton Parkinson, Ltd.; Dr. A. Winstanley, deputy chief inspector of mines for special development duties, Ministry of Fuel and Power.

Royal Society Research Professor: Mr. A. L. Hodgkin, F.R.S.

MR. A. L. HODGKIN, assistant director of research in the Physiological Laboratory, University of Cambridge, who has recently been appointed a Royal Society Research Professor, has already won an international reputation for his work on the biophysics of nervous conduction. His name is associated with the two most striking advances made recently in this field: the definite proof that in a nerve fibre the electric forces at the active region play an essential part in the transmission of the active state; and the discovery that the active surface develops a positive potential with respect to the interior of the fibre.