kilogram respectively. The Committee recommends the general adoption of the principle of fixing the yard/metre and pound/kilogram ratios, and proposes to apply it in a most rational manner to bring the Commonwealth and American yards and pounds into equality. The definitive values recommended are as follows: 1 yard = 0.9144 metre (corresponding to 1 inch = 2.54 centimetres exactly); 1 pound = 0.453 592 37 kilogram or 0.453 592 3 kilogram.

With the view of their adoption in the Commonwealth and the United States, the Committee suggests that the Government of the United States be informed of these proposals. This is a worthy project which should be strongly pursued between the countries concerned. Scientific workers generally, and metrologists in particular, will support the proposal.

In connexion with the legal definitions of units and standards of measurement used in Great Britain, it has been found that these are not always satisfactorily prescribed in an Act of Parliament. An element of flexibility is essential to enable British practice to keep abreast of the latest technical developments and international agreements, and for various purposes the Committee recommends suitable machinery for effecting changes whenever the need arises. This machinery is based on the principle of delegated powers of legislation to be exercised by the Minister within the broad purposes of an Act. In order to provide satisfactorily for definitions in law of certain units, for example, those of time, capacity, temperature, heat and electricity, together with the prescription of standards for such units, and associated matters, it is proposed that a permanent commission be appointed by the President of the Board of Trade to advise on such subjects. The Committee has in mind a strong and wide advisory basis for this work and suggests that the commission should consist of the Astronomer Royal, the director of the National Physical Laboratory, the president of the Royal Society, two members nominated by the Lord President of the Council, one by the Lord Chancellor, and the chairman and not more than three other members by the President of the Board of Trade. It is recommended that the President of the Board of Trade be empowered to give effect by subordinate legislation to the recommendations of the commission and required to lay before Parliament at appropriate intervals a report on its work.

Concerning the more general conclusions to which the inquiry has led, the Hodgson Committee is satisfied that the existing principles of weights and measures law are soundly based and stand in no need of fundamental revision. They have provided a reasonable protection to all engaged in trade, and the machinery of administration appears to have worked well over the years. In the remaining parts of the report, recommendations of varying scope and importance are made in regard to weighing and measuring equipment and the protection of the public against the giving of short weight or measure; but, in the main, these proposals represent additions to, or simplifications of, the present framework, rather than completely novel features. It is recommended that the administration of weights and measures law should continue to be in the hands of local authorities, but should be entrusted in future only to those larger authorities the work of which would require the employment of at least three inspectors. On this basis there would be eventually about a hundred and forty weights and measures

administrative units in place of the 258 at present, and more economical use of staff could justifiably be expected from such a change. As in the past, the Board of Trade through its Standards Department should bear the ultimate responsibility for ensuring efficiency. The main duties of the Department are defined, with a recommendation that its name be changed so as to avoid confusion with the British Standards Institution, which, as is well known, deals with standards from another aspect.

It is hoped that, whenever there is general agreement that the Committee's recommendations are wise and can be implemented without much upheaval, they will be put into effect with reasonable promptitude. In particular, the redefinition of the yard and pound in terms of the metre and the kilogram is a reform long overdue, which should not be delayed on account of other recommendations which may appear controversial or involve major difficulties.

F. A. GOULD

OBITUARIES

Prof. Alexander McKenzie, F.R.S.

WITH the death of Prof. Alexander McKenzie, emeritus professor of chemistry in the University of St. Andrews (University College, Dundee), on June 11, at the age of eighty-one, another link has been severed with the great classical age of organic chemistry.

McKenzie was the son of a village schoolmaster in Angus and received his early education at the High School, Dundee. He entered the United College, St. Andrews, in 1885 and laid a sure foundation for his liberal outlook of later life by reading for the M.A. degree before embarking upon his studies in chemistry. The thrill of research soon captivated him, and after working under Thomas Purdie for a while he gave up, at considerable personal sacrifice, his lectureship at the United College to work with Marekwald in Berlin. His Ph.D. thesis there was a masterpiece which has become a classic. Shortly afterwards he graduated D.Sc. of St. Andrews and embarked on his teaching career, first in London and then in Birmingham, where he became special lecturer in organic chemistry. In 1905 he was appointed head of the Chemistry Department in Birkbeck College, London, a post which he held with such distinction that he was the obvious choice for the chair in his native Dundee when this fell vacant at the end of 1913.

During 1914-38 McKenzie was professor of chemistry in University College, Dundee. His researches expanded and developed throughout the field of stereochemistry, and his reputation became world-wide. At home the merit of his work was recognized by his election in 1916 as a Fellow of the Royal Society, and in Germany by the rare distinction of his admission as an Honorary Fellow of the Kaiserlich Deutsche Akademie der Naturforscher, Halle. On his retirement he received the LL.D. of St. Andrews.

McKenzie's research work was mainly concerned with stereochemical problems, in particular as applied to the derivatives of mandelic, tartaric, malic, maleic and fumaric acids. The isolation of the optically active forms of benzoin and his work on catalytic racemization are examples of his early pioneering. A clear appreciation of the factors leading to loss of optical activity enabled him to devise and carry out the first asymmetric synthesis of mandelic acid; and this was followed by further successful syntheses of

the same kind. McKenzie will also be remembered for his work on the Walden inversion, which also led to the investigation by polarimetric methods of the deamination reactions of α -amino-alcohols and the accompanying migration of organic radicals. These topics provided material for a long series of important researches. All his work was characterized by a subtle elegance which led one of his colleagues to comment that "in attacking the refined secrets of the organic molecule he discarded the ponderous weapons of men of grosser mould for the light rapier of the 'chymicall Artist'".

McKenzie also possessed an acute faculty for the appraisal of work besides his own, as witnessed by his early applications of the Grignard reaction. Furthermore, he had the philosophical and cultural outlook characteristic of the scientific men of his generation, an outlook which is so often lacking to-day.

He was an inspiring teacher, and during his twenty-five years in Dundee he trained a steady stream of research students. He took a lively and enduring interest in the personalities and progress of his pupils, an interest which he maintained throughout his years of retirement. His enthusiasm for the progress of organic chemistry never flagged, and he insisted on

reading every new thesis on organic chemical topics originating from the Department.

He is survived by Mrs. McKenzie and their son.
D. H. EVERETT

WE regret to announce the following deaths:

Sir Walter Johnson, C.M.G., director of medical and sanitary services in Nigeria during 1929-36, known for his work on trypanosomiasis and yellow fever, aged sixty-five.

Commissioner David Lamb, C.M.G., LL.D., director of the Salvation Army Emigration Department during 1903-30 and known for his social studies, who frequently attended meetings of the British Association, on July 7, aged eighty-four.

Mr. William Lowson, formerly senior lecturer in analytical chemistry in the University of Leeds, with which he had been associated since 1897, on May 20.

Prof. H. Nagaoka, professor of physics in the University of Tokyo during 1896-1926, on December 10, 1950, aged eighty-five.

Dr. John Rickman, sometime president of the British Psychological Society and for many years editor of the Society's *Journal*, aged sixty.

NEWS and VIEWS

Institute of Navigation: Thurlow Award

DR. E. G. BOWEN, chief of the Division of Radio-physics of the Commonwealth Scientific and Industrial Research Organization, Sydney, has been given the Thurlow Award for 1950 of the Institute of Navigation, of the United States, for his outstanding contribution to scientific navigation during the past year. The Award is a memorial to Colonel Thompson L. Thurlow, formerly chief of the Navigation and Instrument Section of the Equipment Laboratories of the United States Air Force at Wright Field, Dayton, Ohio, who was killed in 1944. Dr. Bowen and his co-workers have developed several new radio navigational aids which are of special importance in aviation. Their distance-measuring equipment (D.M.E.) has been adopted for civil airline use in Australia. For the first time it provides the pilot of an aircraft with an instrument showing his distance from an airport he is approaching. Another system they have developed, multiple-track radar range (M.T.R.), enables aircraft to fly on a series of tracks radiating from an airport. It has aroused considerable interest in aviation circles overseas. Their latest device is a microwave navigational system which provides a radio counterpart to the simple visual method of navigation using beacon lights. It enables the pilot to 'see' and use radio beacons in thick weather in as nearly as possible the same way that ground markers or light signals can be used as navigational aids under conditions of perfect visibility. It offers great promise as a navigational system for use by aircraft where it is uneconomical to provide the elaborate facilities used on main air routes, and for use by ships in confined waters.

Dr. W. J. V. Osterhout

DR. W. J. V. OSTERHOUT, the well-known American botanist, will celebrate his eightieth birthday on August 2. Dr. Osterhout has, since the beginning of the century, established himself as one of the world's

authorities in plant physiology, especially cell physiology, working mainly in the University of California and Harvard University until 1925, when he transferred to the Rockefeller Institute, New York. From there he retired when he reached his seventieth year; a note of appreciation was published in *Nature* at that time (147, Jan. 25, 1941). Dr. Osterhout has trained or inspired workers in the subjects of his choosing in all parts of the world. We should like to join all those in congratulating him on this occasion and to express the hope that he will long continue to exert his powerful influence and encouragement.

Royal Society Research Fellowships

DR. C. E. LUMSDEN, of the University of Aberdeen, has been appointed second Henry Head Research Fellow of the Royal Society from October 1, to work at the Maida Vale Hospital for Nervous Diseases and the National Hospital for Nervous Diseases on disseminated sclerosis. The Council of the Royal Society has appointed Dr. D. R. Wilkie to be the first Locke Research Fellow, from October 1, to work at University College, London, on energy relations in muscular contraction. Frank Spiller Locke, formerly reader in physiology at King's College, London, who died in 1949, left part of his estate to the Royal Society for the endowment of Locke research fellowships in experimental physiology and pharmacology. The Council has also appointed for the first time two Stothert Research Fellows, each for two years in the first instance, from October 1. Mr. J. R. Vane will work at the Nuffield Institute for Medical Research, Oxford, on the mechanism by which histamine produces gastric secretion, and Mr. J. M. Walshe will work at University College Hospital, London, on amino-acid metabolism in liver disease. The Stothert Research Fellowships are established by the bequest to the Royal Society of the residuary estate of Dr. John Henry Stothert, lecturer in pharmacology at University College