

Association, the new laboratories of which in Musselburgh, Midlothian, were formally opened in September (see *Nature* of November 15, p. 662); Gulland was a member of the Board of Management of this Association, and chairman of its General Purposes and Chemical Advisory Committees. His department at Nottingham was a model of efficient organisation, and was well equipped for the researches which were carried out there under his inspiration and guidance. He had in recent years planned and supervised the erection of excellent extensions to the laboratories, and these are now playing a valuable part in meeting the heavy demands of the post-war period.

Only the barest reference is possible here to Gulland's scientific work, an appreciation of which will doubtless be published elsewhere. During his St. Andrews and Manchester days, he worked on the morphine group of alkaloids, and the constitution which is now generally accepted for morphine was first adumbrated in two classical papers, published in 1923 and 1925, by Gulland and Robinson. With R. D. Haworth, Gulland published a series of papers on the aporphine group of isoquinoline alkaloids (1928-29). New methods were devised by which were synthesized, among other compounds, bulbocapnine methyl ether and corytuberine dimethyl ether. Gulland also made other chemical studies of compounds of biological interest, including pellitorine, the pungent principle of *Anacyclus pyrethrum*, and the active constituents of *Taxus baccata* (1930-31). His work then followed a more biochemical trend

and he investigated (with R. A. Peters) the reducing substances of pigeon's blood, and carried out a series of investigations on the oxytocic principle of the pituitary gland (1932-35), elucidating something of the chemical nature of this hormone. His major contributions to science are those carried out during the past twelve years on the chemistry of the nucleic acids, and of the nucleotides and nucleosides from which they are built up. Some of this work was summarized by Gulland in his Tilden Lecture given before the Chemical Society in 1943 (*J. Chem. Soc.*, 208; 1944). The pre-eminence part which the nucleoproteins play in the fundamental processes of life has become increasingly apparent in recent years, and gives added significance to Gulland's investigations in this field. It is a great misfortune to biological science that they have been so abruptly terminated.

J. W. Cook

WE regret to announce the following deaths:

Prof. W. S. R. S. Lewis, professor of geography at the University College of the South-West, Exeter, on November 14.

Prof. Frank R. Lillie, emeritus professor of embryology in the University of Chicago, president during 1935-39 of the U.S. National Academy of Sciences.

Mr. W. J. U. Woolcock, C.M.G., C.B.E., a past-president of the Society of Chemical Industry, on November 13, aged sixty-nine.

## NEWS and VIEWS

### Nobel Prizes for 1947

#### Sir Robert Robinson, F.R.S.

THE award of the Nobel Prize for Chemistry for 1947 to Sir Robert Robinson, president of the Royal Society, can have occasioned little surprise in view of his outstanding contributions to organic chemistry. They cover so wide a field that it is only possible to refer to a few of the more important of these. His early work on brazilin and hæmatoxylin, carried out in collaboration with the late Prof. W. H. Perkin, led to new pyrylium salt syntheses, which were later extended and applied to the artificial preparation of the anthocyanins, the chief red and blue pigments of flowers and blossoms, thus providing a final proof of the structures assigned to some of them by Willstätter. The possession of the pure synthetic specimens made it possible to devise simple quick tests for the anthocyanins contained in a few petals, which have proved to be of great value in genetic investigations. Of equal brilliance are his investigations in the alkaloid field. His simple synthesis of tropinone was rather the outcome than the cause of a theory of biogenesis of plant products put forward in 1917. This theory collated for the first time the apparently dissimilar alkaloidal constituents, and it has proved useful both in prediction and in criticism. The structures put forward for morphine and thebaine have found general acceptance. Undoubtedly his greatest contribution in this field has been his extended study of the chemistry of strychnine and brucine.

Sir Robert's mastery of the synthetic method and his penetrating insight is revealed in the long series

of memoirs on the synthesis of the steroids. His work in this field has led, in collaboration with Prof. E. C. Dodds, to the synthesis of stilboestrol, a useful and active oestrogen, which has found application in the treatment of certain forms of cancer. During the recent War he was the leader of the Oxford team engaged on the chemistry of penicillin, and it was in his laboratory that the main facts of its constitution were first elucidated. Finally, mention must be made of his contributions to the electronic theory of organic reactions. This theory was based originally on the discovery of C-alkylation of substituted amino-crotonic esters and was later extended by many other observations. Robinson's theoretical views, developed during the decade 1920-30, were subjected to severe criticism, but they have survived in almost unmodified form and they have now found general acceptance. It is not too much to say that the system first advanced by Robinson and his collaborators is the basis of the modern chemistry of organic chemical reactions. Robinson and his school have exercised a profound influence on the development of organic chemistry, not only in Great Britain but throughout the whole Commonwealth. Many of his former students and collaborators hold university professorships or fill important positions in chemical industry.

#### Sir Edward Appleton, G.B.E., K.C.B., F.R.S.

THE announcement of the award of the Nobel Prize for Physics for 1947 to Sir Edward Appleton is one which will be received with great satisfaction by scientific men everywhere, and particularly by workers in pure and applied physics. Sir Edward