radiation in pulses of very short duration, and hence of high instantaneous dose-rate instead of the approximately uniform dose-rate of the conventional equipment, and this again may cause differences. The evidence so far available, in fact, suggests that the high-energy X-rays are slightly less efficient than lower-energy ones in producing some biological effects. Therefore clinical work with the two machines is going forward very cautiously, supported and guided by the results of comparison experiments using various biological and chemical indicators.

It must be stressed that the new machines do not offer any prospect of miraculous cancer cures; but it is confidently hoped that they will increase the proportion of cures already being attained with lower-voltage apparatus. Of one thing there can be no doubt: this unit offers unique opportunities for the study of the effects of ionizing radiations in malignant diseases.

¹ Fry, D. W., *et al.*, *Nature*, **160**, 351 (1947). Miller, C. W., *Nature*, **171**, 297 (1953).

² Kerst, D. W., *Phys. Rev.*, **60**, 47 (1941).

OBITUARY

Prof. G. H. Shull

THE death occurred recently of Prof. George Harrison Shull. He was born in Clark County, Ohio, in 1874. After taking his B.S. degree at Antioch College he graduated Ph.D. at Chicago in 1904. His first post was that of student assistant at the United States Department of Agriculture, Bureau of Forestry.

After this he was successively botanical assistant at the U.S. National Museum, assistant plant physiologist at Chicago, and botanical investigator at the Carnegie Institution of Washington, where he remained for eleven years. In 1915 he became professor of genetics at Princeton University, where he worked until his retirement in 1942.

Prof. Shull is principally known for his pioneer work on pure lines in maize, which laid the foundations of the huge hybrid-maize industry of the United States, based on the crossing of lines which had been inbred for long periods. But throughout his long and productive scientific career he worked extensively on a variety of topics. He concerned himself, among other things, with the heredity of sex in *Melandrium*, linkage and mutation in *Oenothera*, and with self-incompatibility in *Capsella*.

Many academic honours were conferred on Shull, including honorary doctorates from Lawrence College and Iowa State University. He was a member of, and took an active part in, the administration of the Genetics Society, the Eugenics Research Association, the Philosophical Society, and the Torrey Botanical Club, of which he was president in 1947.

Prof. Shull was among the few remaining workers in genetics who date back to the early years of Mendelism. A final word must be said about one of his most noteworthy characteristics. He devoted much time and thought to young workers and was always ready to draw on his vast knowledge and experience for their guidance. A simple, kindly and serene man, he will be much missed.

S. C. HARLAND

NEWS and VIEWS

New Year Honours

THE following names of scientists and others associated with scientific work appear in the New Year Honours list:

Baron: Dr. E. D. Adrian, president of the Royal Society and also of the British Association.

K.B.E.: Sir John Stopford, vice-chancellor, University of Manchester; Dr. Owen H. Wansborough-Jones, chief scientist, Ministry of Supply.

Knights: Prof. Wilfrid E. Le Gros Clark, Dr. Lee's professor of anatomy in the University of Oxford; Prof. Leybourne S. P. Davidson, professor of medicine in the University of Edinburgh, and president of the Royal College of Physicians of Edinburgh; Dr. Keith A. H. Murray, chairman of the University Grants Committee; Dr. Oliver G. Sutton, director of the Meteorological Office (Air Ministry) and president of the Royal Meteorological Society.

C.B.: G. R. D. Hogg, Under-Secretary, Department of Scientific and Industrial Research.

C.M.G.: D. M. Balme, principal of University College, Gold Coast; B. A. Cash-Reed, attaché for food and agriculture at the British Embassy in Washington; Dr. R. Lewthwaite, director of Colonial Medical Research; Prof. W. L. Waterhouse, lately professor of agriculture in the University of Sydney, for services to the wheat industry in Australia; T. Y. Watson, Secretary for Agriculture and Natural Resources, Uganda.

C.B.E.: C. E. J. Biggs, director of agriculture, Tanganyika; C. S. Bryant, lately director of materials and explosives research and development, Ministry of Supply; Dr. C. J. Gadd, keeper, Depart-

ment of Egyptian and Assyrian Antiquities, British Museum; Dr. M. W. Goldblatt, director, Industrial Hygiene Research Laboratories, Imperial Chemical Industries, Ltd.; Dr. A. W. Greenwood, director, Poultry Research Centre, Edinburgh (Agricultural Research Council); W. F. Grimes, director, London Museum; G. W. Lines, director of agriculture, Sierra Leone; P. McNee, director, Drainage and Irrigation Department, Federation of Malaya; Prof. R. Peers, emeritus professor of adult education in the University of Nottingham, chairman of the Central Committee for Adult Education in H.M. Forces; Miss Audrey I. Richards, director, East African Institute of Social Research, Makerere College, Uganda; F. S. Russell, secretary of the Marine Biological Association of the United Kingdom, and director of the Plymouth Laboratory of the Association; E. E. Shipton, explorer and mountaineer; Prof. C. H. Smith, professor of instrument technology in the Royal Military College of Science; Dr. E. L. Taylor, deputy director, Veterinary Laboratories, Ministry of Agriculture and Fisheries; Prof. G. F. J. Temple, Sedleian professor of Natural Philosophy in the University of Oxford; L. C. Wilcher, principal of the University College of Khartoum, Sudan; J. Wright, director of agriculture, Jamaica.

Instrument Technology in the Imperial College,
London: Prof. J. D. McGee

THE recent announcement that Dr. J. D. McGee had been appointed by the University of London to the University chair of instrument technology provides an interesting example of the expanding