

OBITUARIES

Dr. Fabius Gross

THERE was something unusually attractive about Dr. Gross; it was partly his self-confidence, bred of knowledge and hard experience, but more his charm of manner, his friendliness and his unfailing good humour in every situation, and not least the catholicity of his sympathies, in the arts as well as in the sciences. He was born in Krosno in 1906, when that town was still in Austria, and at the University of Vienna he studied biology under a distinguished group of teachers, Profs. Storch, Versluys, Przibram, Joseph and Wettstein. As a student he showed aptness for research, recognized by his association with Storch in investigations of the feeding mechanism of Crustacea and the biology of dragon-flies, and his own D.Phil. thesis (1929) was an analysis of the swimming movements of Cladocera based upon microscopic studies with cinéfilm. Three further years of research, on *Artemia* and *Noctiluca*, were spent with Prof. Hartmann at the Kaiser-Wilhelm Institut in Berlin, and then the rising tide of anti-Semitism drove him from his own land to seek shelter in Britain.

There, with the aid of the Academic Assistance Council, he was able to continue his studies—with Huxley at King's College, London, on regeneration in *Sabella* and mitosis in *Artemia*, with Fisher at University College on *Artemia*, and with Allen at Plymouth, where he commenced a promising line of investigation on culture methods for marine Protozoa which led to a study of the neglected micro-plankton and to a recognition of their importance as a basic food-supply for the larvæ of fishes and other marine animals. In 1937 he was appointed lecturer in experimental zoology in the University of Edinburgh, and for twelve years he shared in the work of the Zoology Department. Without previous experience of teaching he became a most stimulating teacher, careful in preparation, constantly devising and testing new experiments with his classes, and guiding his students towards reliance on their own observations rather than on the dogma of text-books.

Meanwhile, Gross continued his own researches, and the originality of his work was acknowledged by the first award of the Jacobsson Fellowship of Sweden, which enabled him during the summer term of 1939 to assist Prof. Hans Pettersson in inaugurating the use of the unique plankton-well in the new Oceanographic Institute of Göteborg. His work on this new venture, then and during a second visit in 1947, was greatly appreciated and admired by his co-workers in Sweden.

In 1940, with more recent refugees, he was interned under the Enemy Aliens Act; but he returned without rancour, and set about planning a series of experiments to test the effects upon the growth of fishes of adding ordinary chemical fertilizers to enclosed or partly enclosed arms of the sea. These experiments, financed by Imperial Chemical Industries, Ltd., were carried out by teams of scientific workers from the Edinburgh Zoology Department and Millport Marine Station, and the final reports on this, an important exploratory contribution to a new outlook on fishery research, appeared only a few days after Dr. Gross's death. He spent the summer vacation of 1949 at Woods Hole Oceanographic Institution, and had not long left Edinburgh to take up the important post of director of the Marine Biological Station to be created at Bangor for the University of Wales, for which he was eminently fitted, when symptoms of

serious illness showed themselves; after a characteristically brave struggle he died in Edinburgh on June 18 and was buried there with Jewish rites on the following day.

JAMES RITCHIE

Dr. J. R. Ashworth

SCIENTIFIC societies in the north-west of Britain sustained a great loss on July 9 through the death of Dr. James Reginald Ashworth, of Rochdale. He had only recently resigned from the office of honorary secretary of the Rochdale Literary and Scientific Society, after sixty-five years, and he had been a co-opted member of the Public Libraries, Art Gallery and Museum Committee of Rochdale for sixty-three years. At the age of eighty-nine he had been an influence in Rochdale's cultural life long before many of those who now have to sustain it were born.

In 1893, two years after the Rochdale Technical School was built, Dr. Ashworth was appointed teacher of evening classes in magnetism and electricity and also in heat, light and sound under the old South Kensington scheme for science and art classes. At that time the teaching of physics was not general, except in colleges and universities; much work was therefore necessary in devising experimental courses, which were embodied in two practical text-books written by Dr. Ashworth. In the first year of his appointment, only twenty-three students attended the physics and electrical engineering courses, but when he retired in 1928, the number had risen to three hundred.

In the wider scientific world Dr. Ashworth built up a considerable reputation. He wrote eighteen books and pamphlets dealing mainly with various aspects of magnetism. Recognition of his authority on this subject was made in May 1939, when he was invited to address a conference on magnetism organised at Strasbourg by the French Central Council of Scientific Research.

Dr. Ashworth had also devoted much attention to the study of ultra-violet rays and their relation to sunspot frequency, and only a few months ago he published a small book on this subject, through the Liverpool University Press, based on his own daily observations over a period of sixteen years. He made a number of contributions to *Nature*, mainly on magnetism and also on atmospheric pollution and its effect on the transmission of ultra-violet radiation. For many years he had been deeply interested in the subject of atmospheric pollution. He installed a gauge on the roof of the Rochdale Technical School and made daily observations to the Smoke Abatement Society. He was a fellow of both the Royal Meteorological Society and of the Physical Society.

At the time of his death Dr. Ashworth was curator of the Manchester Literary and Philosophical Society. Up to the end of last year he was in good health, attending the Council meetings regularly and giving valuable advice. He recently presented the Society with a portrait of Joule, whose connexion with the old building in George Street, Manchester, is well known.

The Vicar of Rochdale (the Rev. G. E. N. Molesworth) pays the following tribute to Dr. Ashworth: "He said he valued above all things integrity and truthfulness of heart and mind. So indeed his life has proved. We shall not see his like again and we shall be immeasurably the poorer for it. He has reached the end honourably and unflatteringly with his finger on the pulse of passing events."