as being organizer of War Stocks during the First World War.

In the absence of any special training, Earland's interest in science was stimulated in about 1887 through the acquisition of a microscope and a copy of M. C. Cooke's "One Thousand Objects for the Microscope". Later he joined the Quekett Microscopical Club, where he met Halkyard, who encouraged him to start working with Foraminifera. Further encouragement from Millet, Joseph Wright, Lister and D'Arcy Thompson ensured Earland's place in the study of marine zoology of the day. By 1891 he had published his first work, a paper on the Recent Foraminifera of Malta, and thereafter appeared many papers until his last which appeared in 1957. All were symbolic of a painstaking and accurate man, and several of them remain as classics of their type.

Earland was an active member of many scientific societies and at one time he was vice-president of the Royal Microscopical Society, of which he became an honorary Fellow in 1951. In 1938 and 1939 he was president of the Hertfordshire Natural History Society, and in 1942 he was elected a Fellow of the Royal Society of Edinburgh.

No mention of Earland would be complete without reference to his twenty-five-year partnership with Edward Heron-Allen during 1907–32. This resulted in a stream of first-rate papers and monographs, beautifully illustrated, on the Recent Foraminifera of various areas around the British coasts, and of other parts of the world. The most important of the latter were those of the Kerimba Archipelago, Portuguese East Africa (published in 1914–15), the British Antarctic (*Terra Nova*) Expedition (published in 1922), and of the Discovery Expeditions (four reports published in 1932, 1933, 1934 and 1936, the last three by Earland alone).

Earland, to use his own words, had a "contempt for regulations, precedents and authorities"; and in the words of others was the "most sympathetic and the most helpful of chiefs, and one whose keen interest and untiring industry were infectious".

R. H. Hedley

NEWS and VIEWS

The Third Russian Earth Satellite (1958 δ)

The launching of *Sputnik* 3 (Satellite 1958 δ) was announced from Moscow on May 15. The satellite was stated to be conical in shape, with a length of 12·3 ft. excluding aerials, a base diameter of 5·7 ft. and a weight of 2,926 lb., including 2,134 lb. of apparatus. The experiments for which the satellite is designed include studies of cosmic rays, geomagnetism, solar radiation and micrometeorites, and the results are to be telemetered back to the Earth. The satellite is equipped with solar batteries and carries a radio transmitter with a frequency of 20·005 Mc./sec. There are two other objects in orbit with the satellite, namely, the rocket which performed the last stage of propulsion and a nose cone which protected the instruments during the climb through the atmosphere.

According to the Royal Aircraft Establishment, Farnborough, the radio signals are much weaker than those from the first two Russian Earth satellites, and because of their low frequency are too much affected by the ionosphere to be entirely satisfactory for determining the orbit. Furthermore, the orientation of the orbital plane is such that the satellite is not likely to be observed visually from Britain until late in June. At present the orbital elements are not accurately known. The inclination of the orbit to the equator is near 65°, as for *Sputniks* 1 and 2. The period of revolution at noon on May 16 was 106·0 min. It seems likely that the height of *Sputnik* 3 at perigee is not very different from that of its predecessors, that is, roughly 220 km., and that the position of perigee is near latitude 50° N. when the satellite is going north-east. The apogee height is about 2,000 km., the eccentricity being about 0·12. The orbital plane is rotating about the Earth's axis from east to west at a rate of 2·5° a day, and it is to be expected that perigee will move backwards along the orbit at a rate of rather less than ½° a day. The first rough estimate of life-time is one year, but this is subject to considerable error.

Tracking the Russian Earth Satellite

Within an hour of receiving the news that the third Russian artificial Earth satellite had been launched, measurements were being made on its signals at the Radio Research Station (Department of Scientific and Industrial Research) at Slough. A graph showing observations of the radio bearing of the satellite on its fourth orbit during its passage over Britain soon after noon on Thursday, May 15, was included in the exhibits at the Royal Society's conversazione the same evening. Among later measurements more precise track information was obtained some twenty-four hours later (orbit number 17) when, at its nearest approach, the satellite was at an angle of elevation of about 60° on an azimuthal bearing of 135° true. During this particular transit the maximum rate of change of bearing reached 3° a second, as recorded from observations made at intervals of about five seconds. In addition, the Doppler change in frequency of the signals transmitted by the satellite is being measured and recorded, so that a more complete study can be made of the orbit being followed. Preliminary results have already been communicated to other interested establishments in Britain.

Virology at Glasgow : Prof. M. G. P. Stoker

Dr. M. G. P. Stoker is to be the first holder of the newly established chair of virology in the University of Glasgow. This appointment is significantly opportune at the present time, when technical advances in virology are contributing on an ever-increasing scale to emphasize the importance of intracellular parasites as initiators of disease. Dr. Stoker will take with him to Glasgow an exceptionally wide experience of research into viral and rickettsial maladies. Educated at Oakham School and Sidney Sussex College, Cambridge, Stoker obtained his clinical training at St. Thomas's Hospital, London, and took the M.B., B.Chir., of Cambridge in 1942. He was actively concerned in