

*taries*: Sir Henry Dale and Sir Frank Smith; *Foreign Secretary*: Lord Rayleigh; *Other Members of Council*: Dr. E. J. Butler, Dr. W. T. Calman, Prof. C. H. Desch, Prof. T. R. Elliott, Prof. A. V. Hill, Mr. C. N. Hinshelwood, Prof. A. Hutchinson, Dr. H. Spencer Jones, Prof. J. C. McLennan, Dr. F. H. A. Marshall, Sir Charles Martin, Prof. E. Mellanby, Prof. R. Robinson, Mr. H. T. Tizard, Prof. E. T. Whittaker, Mr. G. U. Yule.

#### Sir Thomas Middleton, K.C.I.E., K.B.E., C.B.

THE first award of the Gold Medal of the Royal Agricultural Society of England in recognition of distinguished service for agriculture has been made to Sir Thomas Middleton, vice-chairman of the Development Commission. In the early part of his career Sir Thomas was closely associated with farmers in England. Under his guidance a wide and varied scheme of experiments was conducted in the northern counties in the first years of the present century and afterwards in the eastern counties. He was for a time lecturer in agriculture at Aberystwyth, and later professor at Durham, and finally at Cambridge, where his five years' professorship served to put the young department on its feet with funds for a headquarters assured. In 1906 he went from Cambridge to the Board of Agriculture. The War provided much scope for his talents as an administrator. In 1916 he produced his well-known survey of German agriculture and indicated the lines which British farmers might usefully follow to meet the national emergency. When the Food Production Department was set up, he was put in charge of it, and the success it achieved was largely due to his wise guidance and tactful management. A record of the work accomplished and its post-War lessons is to be found in his book "Food Production in War". In 1919 Sir Thomas was appointed to the Development Commission, becoming vice-chairman ten years later. Much of the success of the present system of agricultural education and research is due to him. He was one of the earliest members of the Agricultural Education Association, and was the first president of the newly constituted Section M (Agriculture) of the British Association at the Dundee meeting in 1912. His presidential address at the meeting was "Early Associations for promoting Agriculture and Improving the Improver". The work of a great 'improver' has been suitably recognised.

#### René Louiche Desfontaines, 1751-1833

AMONG the names of the many eminent naturalists who have worked in the Jardin des Plantes is that of René Louiche Desfontaines, the botanist, who died on November 16, 1833. A contemporary of Antoine Laurent de Jussieu, after attending the college at Rennes, he went to Paris to study medicine, and there came into contact with Louis-Guillaume Le Monnier (1717-1799), professor of botany in what was then known as the Jardin du Roi. In 1783 Desfontaines was elected a member of the Academy of Sciences and that same year set out on a botanical expedition to North Africa. After spending two

years exploring Tunis and Algeria, he returned home with valuable collections in all departments of natural history, and in 1786 was chosen to succeed Le Monnier as professor of botany, retaining that position when the title of the gardens was altered to the Jardin des Plantes. In spite of the Revolution, he continued to prosecute the study of botany with vigour and contributed many memoirs to the newly organised Academy of Sciences. Among these was his paper on the structure of monocotyledons, read in 1796. In 1798 he published the first number of his "Flora Atlantica" and this was succeeded by a catalogue of the plants in the Jardin des Plantes, and a work on the history of trees and shrubs which could be cultivated in France in the open air. He continued his active work until he was more than seventy years of age, and his researches were only brought to an end by the failure of his sight. He married late in life, but had one daughter who contributed much to his comfort in his last years.

#### Cosmic Rays

IN his inaugural address on "Cosmic Rays", delivered at Birkbeck College, London, on November 2, Prof. P. M. S. Blackett gave a comprehensive survey of the history of the subject. In historic order the three main methods of experiment are (a) that in which the ionising energy of the radiation is measured at great heights in the atmosphere and great depths below water—in the former case the ionisation is 100,000 times greater than in the latter; (b) that in which an idea of the physical nature of the radiation was first obtained, when widely separated Geiger-Müller counters gave simultaneous impulses in the Bothe-Kolhörster experiments; and finally (c) the application of the Wilson cloud chambers to the problem by Skobelzyn, Anderson, Auger, Kunze, Occhialini and himself. The last method is undoubtedly the most powerful and direct in studying the nature, if not the origin, of the radiation. In Prof. Blackett's own work, the great economy was introduced of making the ionising particle or radiation set off its own photographic recording devices. The interpretation of these records remains at the moment a matter of some difficulty. Their beauty has removed the scepticism concerning the existence of the positively charged particle of electronic mass, but there remain the problems of the interrelation of the individual members of each group in the showers to each other and of the showers amongst themselves occurring in separated localities.

SPEAKING of larger scale experiments, it is surprising what deductions can be drawn from the negative result, that after suitable allowances are made, there is no greater variation of the ionisation with time than 1 part in 1,000. The particles therefore do not come from the sun; if not from the sun, then not from the stars, or from within the stars, and from their isotropism not from our galaxy, and if not from ours not from 'anybody else's', as galaxies are probably all alike. The idea of their being our special property is too Ptolemaic. Thunderstorms cannot account for the whole phenomenon, and thus