News and Views

The Right Hon. Lord Rayleigh, F.R.S.

THE British Association holds its annual meeting in Cambridge in August 1938, and the General Committee of the Association has elected Lord Rayleigh to the presidential chair for that meeting in succession to the veteran biologist Sir Edward Poulton. Readers of NATURE need little introduction to Lord Rayleigh, whose influence on the development of physical science has been so patent and so profound. First and foremost an experimental physicist, he has his father's flair for recognizing those aspects of an experimental investigation which most need stressing, and for extracting results of fundamental importance from apparatus of simple, even primitive, type. His work on radium and the earth's heat is classic in quality, and he has elucidated many diverse, and yet related, phenomena in his studies of the aurora borealis, the light of the night sky, the green flash, and the fluorescence of mercury vapour. He has lately studied the conditions of optical contact of glass surfaces, and has investigated, by admirably simple methods, the pull required to separate, and the work done in separating, contacted surfaces. He has measured the small amount of reflection between two contacted glass surfaces, and has shown that the blackness of the black centre of the Newton's rings formed between a spherical and a plane surface is by no means perfect.

LORD RAYLEIGH'S services to science on the administrative side are equally varied and weighty. He is chairman of the governors of the Imperial College of Science and Technology, and of the executive committee of the National Physical Laboratory. He had filled the offices of foreign secretary of the Royal Society, of president of Section A of the British Association, and of president of the Physical Society. Lord Rayleigh's contacts with Cambridge are many, and make the choice of the General Committee a singularly happy one. The nature and scope of his address remain to be seen, but, whatever be his choice, the scientific world, and indeed, the world at large, may look forward to receiving a pronouncement of fundamental importance.

Grass and the Nation's Food Supply

DR. R. E. SLADE'S evening discourse at the British Association, delivered on September 3, came well within the category of scientific contributions bearing upon social welfare, for it demonstrated the physical possibility of greatly increasing the nation's home-grown food supply, and incidentally of improving soil fertility and of helping to put the much-suffering farmer upon his financial feet. A conspicuous feature of recent agricultural progress has been the recognition of grass as a crop, and how by good management and the use of scientific methods of grass conservation, the productivity of pastures can be immensely increased. Early researches on grass as a food for stock were largely confined to hay, and though this form of 'bottled sunshine' is unlikely ever to disappear, the nutrients in grass can be best conserved either as ensilage or as artificially dried grass. No system of cultivating grassland can be adequate unless it takes cognizance of the reaction between the pasture herbage and the grazing animal, for by controlling the time and intensity of grazing or cutting, by judicious manuring, and by timely cultivations, a succession of palatable and nutritious herbage can be maintained throughout the grazing season, and this season can be extended at both ends, that is, in spring and in autumn. The re-discovery by Prof. T. B. Wood and Dr. H. E. Woodman of the high feeding value of leafy, young grass, and the breeding of leafy and highly nutritious strains of indigenous grasses by Prof. R. G. Stapledon and his co-workers at Aberystwyth, have opened up a vista of great possibilities for home agriculture and national food supply.

As an example of what can be done to improve the yield of food material from grassland, Dr. Slade described the results of a highly interesting experiment that has been carried on since 1935 at a large dairy farm near Middlewich, in Cheshire, where the climate is favourable and the management has been scientific as well as practical. Monthly records of milk production and live-weight increase of animals have been recorded throughout, and from these data the amounts of food (protein and starch equivalents) provided by the grass and the hay have been calculated. The average yield of crude protein per acre in 1935 and 1936 was 640 lb., which is three to four times as much as that given by an average pasture in Great Britain. Equally good results have been obtained on a 'farmer's farm' near Middlesbrough, in Yorkshire, over a period of ten years, and it was suggested that yields of crude protein up to 1,500 lb. per acre should be obtainable when Prof. Stapledon's new strains of indigenous grasses become available. A yield of 700 lb. protein per acre is equivalent to a yield of 45 lb. protein as dressed beef, or to 103 lb. protein as milk, which is just about the amount of protein provided for human food by an average acre of wheat. Pigs fed on grass protein could provide 70 lb. of pork per acre of grassland, but for this purpose the grass would have to be defibrinated. What is needed, and what seems feasible, is a protein-rich food made from grass deprived of its fibre, a kind of 'grass cheese', which could be fed to pigs for producing pork, and in times of national emergency could be eaten by the people.