mutual understanding and close cooperation for the future of civilization. If the association shall profit by the extraordinary examples of efficiency presented by industry, it will organize its varied and enormous resources in membership to make science in a broad sense the brightest light in the world.

In this local gathering there is something of hominess and comfort which we all enjoy. Here is expressed to an exceptional degree this kindly, unselfish spirit of science. But the meetings of the association as a whole are more like an army on the march. They involve masses and administrative machinery and simultaneous movements on a hundred fronts. Yet they can be so organized that each individual who attends them not only will commune with his fellow specialists, but, through addresses by the heroes of science and by symposia, will be raised to heights from which he can survey the field of operations of the great army of which he is a part. Then, in slightly paraphrased words of Byron, he will say at the close of each meeting of the association:

> I love not Nature less, but Man the more,
> From these our interviews, in which I steal
> From all I may be, or have been before,
> To mingle with the Universe, and feel
> What I can ne'er express, yet can not all conceal.

SCIENTIFIC EVENTS

THE OXFORD UNIVERSITY BUREAU OF ANIMAL POPULATION

THE first annual report of the Oxford University Bureau of Animal Population is summarized by a correspondent of the London *Times*. He states that the inception of the bureau is due to its present director, Charles Elton, whose researches on the regular fluctuations in numbers shown by many wild animals convinced him of the high theoretical and practical importance of the problem of animal population. The bureau was first established in 1932 with the aid of a grant from the New York Zoological Society and with the general approval of the University of Oxford. A trial period convinced the university authorities of the value of the work, and the bureau is now an official institution, with a grant from the university towards its expenses and a fellowship at Corpus for its director. The correspondent writes:

> The range of contacts established by the bureau is remarkable for what is still a small institution. Their main piece of research, on the fluctuations in numbers of voles, is supported by the Royal Society, the Forestry Commission, the Medical Research Council and the Agricultural Research Council, and there has been cooperation with such different bodies as the Scottish Meteorological Office and the London Zoo. The research on partridge numbers is chiefly financed by Imperial Chemical Industries, with aid from private estate owners throughout the country. A remarkable example of cooperative research is that on the fluctuation of the snowshoe rabbit in the North American continent. For this reports are analyzed from nearly 700 separate observers, from the Hudson's Bay Company, the Canadian National Parks Service, a paper corporation in Anticosti, the Alaska Game Commission, the Newfoundland Department of Natural Resources and the United States Bureau of Biological Survey.
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> Results of this and related inquiries have made it possible to build up a picture of fluctuations in Canadian wildlife for over 100 years. The period of the fluctuation was originally supposed to be determined by the 11-year sun-spot cycle, but the more accurate records now available show that this can not be. The period averages a little less than 10 years, and must be determined by some hitherto undiscovered climatic cycle. That this is likely to be so is shown by the research on vole plagues. The numbers of voles, it was found, fluctuate with a three- to four-year periodicity. Quite recently the superintendent of the Scottish Meteorological Office has discovered a rhythm in factors affecting storminess, which exhibits an identical rhythm that unquestionably (though by what precise means is still unknown) causes the voles' fluctuations. Thus for certain purposes animal numbers may constitute a new type of meteorological instrument, serving to detect hitherto unsuspected weather-cycles.

A side-line undertaken by the bureau is the investigation of the fluctuation in numbers of the semi-wild exotic animals which have been liberated in Whipsnade. The researches of the bureau have great practical importance. If adequate records are available scarcity due to persistent over-destruction can be readily distinguished from the purely temporary scarcity due to a "crash" in a normal cycle of fluctuation. Among the fur-bearing carnivores of Canada, for instance, the lynx and fox show normal cycles; but the marten has been over-trapped and now is no longer able to increase rapidly in numbers at regular intervals as it used to do.

THE MARIA MOORS CABOT FOUNDATION FOR BOTANICAL RESEARCH

THE establishment of the Maria Moors Cabot Foundation for Botanical Research is announced by Harvard University. The initial endowment is $615,773, provided by Dr. Godfrey L. Cabot, of Boston, a graduate of Harvard College in the class of 1882. The income from this fund is to be used for the first fifty years for plant research, all restrictions being removed after this period. The purpose of the gift is to investigate methods of increasing the rate of growth of plants, especially trees, and consequently the rate at