gastric anacidity and macrocytic anemia responding to the administration of extracts of liver known to be effective in pernicious anemia. Of greatest immediate importance, however, is their observation that the intrinsic factor disappeared from the gastric juice of certain affected animals and that their livers were shown no longer to contain the thermostable principle effective in pernicious anemia. Here, then, is evidence that by a type of dietary deficiency the essential gastric defect of pernicious anemia has been produced. Although it is probable that defective diets are not the sole cause of such changes in Addisonian pernicious anemia, defective diets are very common in related types of macrocytic anemia such as occur in sprue and in pregnancy in certain parts of India. The facts disclosed by Miller and Rhoads must nevertheless be taken into account in any consideration of the possible original causes of the changes of the gastric secretion in Addisonian pernicious anemia. Even in this disease, aversion to meat was described by Fenwick[3] in 1880 and other peculiarities of the diet are often noted. Lindgren[40] has recently found that gastric anacidity in the general population is unusually common in Sweden in regions in which diets low in meat, vegetables and fruit and high in starchy foods are prevalent. It is hoped that students of nutritional deficiency may recognize that for an adequate explanation of the manifestations of deficiency disease in man the effects of dietary deficiency upon the gastrointestinal tract are worthy of further study.

# SCIENTIFIC EVENTS

## COURSES IN GAME MANAGEMENT AT THE STATE UNIVERSITIES

COURSES in game management, to be set up in the several state universities, will have the active support of the Bureau of Biological Survey, which is prepared to supply instructors and to cooperate with the universities and with state game commissions in financing the new development.

J. N. Darling, chief of the bureau, in announcing this new policy, stated that one of the leading American manufacturers of arms and ammunition has agreed to contribute $30,000 a year for the purpose. The Biological Survey will be able to supply $42,000. The game commissions and universities also will share in the expense.

Research work in wild-life subjects as well as in teaching the application of methods of modern game management will be included in the courses. Many universities now have important schools of forestry and it is anticipated that the new educational service in game management will follow similar lines.

Several schools and state game commissions are ready to proceed with the inauguration of courses in game management. The Biological Survey has men competent to direct the work. The courses will be designed to fit students with practical and scientific knowledge in game management and to turn out graduates equipped to do work in the restoration of valuable forms of wild life.

Mr. Darling points out that for years colleges and universities have been training foresters and park-planning engineers and developing specialists in the use and preservation of many of our natural resources, but nowhere are there facilities to prepare young men for the equally important task of administering the supply of wild birds, animals and fishes. As a result of this neglect there are few men who have the scientific and technical qualifications necessary to enable them to deal with the steady decrease in our wild life. by applying the known principles of game restoration.

Under this new policy the Biological Survey will supply institutions with technically trained instructors who will make available to students, farmers, landowners and sportsmen the results of experimental work conducted by the wild-life agencies of state and federal governments and by conservation organizations. These units under the direction of the Bureau of Biological Survey will do away with this duplication of effort.

## THE LEVERHULME FELLOWSHIPS AND AWARDS FOR RESEARCH

AWARDS of Leverhulme Research Fellowships in 1935 and grants to research workers are announced by the Advisory Committee and are given below. The Advisory Committee have recommended and the trustees have approved 20 nominations to fellowships and seven grants in aid of research, tenable for varying periods up to two years.

The names of the fellows and the subjects of the researches in the sciences are as follows:

W. N. BAILEY, M.A., D.Sc., senior lecturer in mathematics, University of Manchester.—"The Study of Functions of Hypergeometric Type."

D. B. BLACKLOCK, M.D., D.P.H., professor of tropical Medicine, University of Liverpool.—"A Study of the Present Practise of Hygiene (including Rural Hygiene) in Certain Eastern Countries."

MRS. M. G. BLACKLOCK, B.Sc., M.B., B.Ch., curator of the museum, Liverpool School of Tropical Medicine.—"A Comparative Study of the Organizations for the Improvement of Health of Women and Children in Eastern Countries."

[40] S. Lindgren, *Acta med. Scandinav.*, Suppl. 48: 1–235, 1932.