SCIENCE

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MSS. intended for publication and books, etc., intended for review should be sent to the Editor of SCIENCE, Garrison-on-Hudson, N. Y.

THE PROMOTION OF AGRICULTURAL SCIENCE.

THE Society for the Promotion of Agricultural Science was founded in the year 1880, largely through the efforts of a few men, most of whom have now passed to their reward, who saw clearly the necessity for some such organization.

At that time the workers in agricultural science in the United States were few and scattered. While the oldest of the agricultural colleges had been in existence for some twenty-five years, these institutions were still comparatively feeble, with, in most cases, few students, and struggling for recognition. The first agricultural experiment station in the United States had been established but five years before and had been fully taken over by the state two years later. At the date of the foundation of this society, there existed in the United States three state experiment stations, two university stations and one private station, and few means were available for personal contact or exchange of ideas between investigators or for the publication of their results. The U. S. Department of Agriculture was a comparatively small affair, presided over by a commissioner, and its scientific work was chiefly that of its chemist, entomologist and veterinarian.

The twenty-six years which have since elapsed have witnessed a phenomenal development of agricultural education and investigation, and the young student of the present day can hardly realize the conditions which existed a generation ago. Now,

There still remain to be published chapters on the nervous system and organs of sense, organs of digestion, organs of circulation, organs of respiration, organs of secretion, and sexual organs. In the part already completed the chapters on morphology are marvels of detail and thoroughness. The work itself is a large octavo, and more than ninety pages are devoted, for example, to the study of the exoskeleton of the head, while nearly eighty pages are occupied with the treatment of the muscular system. Nearly all of the numerous and strikingly apt illustrations are original, having been drawn by Dr. Berlese himself. Each section of the work is followed by a very complete bibliography, and the author has shown a perfect knowledge of the work of other men, the publications of American authors having been considered and studied with a thoroughness quite unusual among European authors.

The second volume, which has been reserved for the treatment of biology of insects, will contain a careful consideration of all questions of economic importance, and it will undoubtedly be of interest to learn from this work Berlese's final views on the subject of parasitism, and especially the relations of insects and birds upon which point he has long been at odds with other Italian zoologists.

L. O. Howard.

SCIENTIFIC JOURNALS AND ARTICLES.

The October number (volume 7, number 4) of the *Transactions of the American Mathematical Society* contains the following papers:

O. Bolza: 'Weierstrass's theorem and Kneser's theorem on transversals for the most general case of an extremum of a simple definite integral.'

J. Pierpont: 'Area of curved surfaces.'

W. A. Manning: 'On multiple transitive groups.'

L. Stickelberger: 'Zur Theorie der vollstandig reduciblen Gruppen, die zu einer Gruppe linearer homogener Substitutionen gehören.'

L. E. Dickson: 'On commutative linear algebras in which division is always uniquely possible.'

H. F. Blichfeldt: 'On the order of linear homogeneous groups.'

J. I. Hutchinson: 'On automorphic groups whose coefficients are integers in a quadratic field.'

F. R. Moulton: 'A class of periodic solutions of the problem of three bodies with application to the lunar theory.'

J. H. McDonald: 'A problem in the reduction of hyperelliptic integrals.'

C. N. Haskins: 'On the differential invariants of a plane.'

This number contains also: Notes and Errata, volumes 6, 7; Table of Contents, volume 7.

The November number (volume 13, number 2) of the *Bulletin of the American Mathematical Society* contains: Report of the Thirteenth Summer Meeting of the American Mathematical Society, by F. N. Cole; Report of the New Haven Colloquium, by Virgil Snyder; 'Theory and Construction of Tables for the Rapid Determination of the Prime Factors of a Number,' by Ernest Lebon (translated by W. B. Fite); 'On a Fundamental Relation in Abstract Geometry,' by A. R. Schweitzer; 'On the Orderly Listing of Substitutions,' by D. Lehman; 'The Boston Colloquium' (Review of Lectures on Mathematics by E. B. Van Vleck, H. S. White, F. S. Woods) by J. I. Hutchinson; Correction; Notes; New Publications.

SOCIETIES AND ACADEMIES.

NATIONAL ACADEMY OF SCIENCES.

The autumn meeting of the academy was held on Tuesday, Wednesday and Thursday, November 20, 21 and 22, in the new buildings of the Harvard Medical School, Boston. The list of scientific papers was much longer than it has been at any session of the academy in recent years. It was, indeed, necessary to read by title many of the papers, which according to the program were as follows:

Alexander Graham Bell: 'A few Notes Concerning Progress in Experiments relating to Aerodromics.'

William Edward Story, Clark University (introduced by A. G. Webster): 'A Method for the Enumeration of Algebraic Invariants.'

Arthur Gordon Webster, Clark University: 'Acoustic Measurements.'

W. T. Porter, Harvard Medical School (intro-