

an appreciative audience of nearly eighty persons, the members of the American Physical Society attending, by invitation, in a body. During the reading of the address and of Professor Pupin's paper, the chair was occupied by President H. A. Rowland, of the Physical Society. As predicted in the report of the October meeting, the relations of these two societies are becoming more and more intimate and cordial, a tendency which cannot be too highly commended. The results are mutually beneficial. The attendance of members of the Mathematical Society increased more than seventy per cent. over last year, this Society furnishing nearly one-half of the total attendance at the meeting of both bodies.

At the annual election the following officers and members of the Council were chosen: President, R. S. Woodward; First Vice-President, E. H. Moore; Second Vice-President, T. S. Fiske; Secretary, F. N. Cole; Treasurer, W. S. Dennett; Librarian, Pomeroy Laden; Committee of Publication, F. N. Cole, Alexander Ziwet, F. Morley; Members of the Council to serve for three years, Simon Newcomb, Oscar Bolza, L. A. Wait. Suitable resolutions were adopted on the retirement of Professor Jacoby from the office of Treasurer after a service dating from the founding of the Society.

The Council announced the election of the following persons to membership in the Society: Professor William Beebe, Yale University; Dr. J. V. Collins, State Normal School, Stevens Point, Wis.; Professor A. R. Forsyth, Trinity College, Cambridge, England; Professor M. W. Haskell, University of California; Mr. C. A. Noble, University of California; Miss E. N. Martin, Ph.D., Ardmore, Pa.; Mr. E. B. Wilson, Yale University; Miss R. G. Wood, New Haven, Conn. Four applications for membership were reported. The total membership of the Society is now 342, a gain of 27 during the year. About 110 papers were

presented before the Society during the year as against 83 in 1898.

The first number of the *Transactions* is now in press and will appear in January. Later numbers will appear at intervals of three months.

The following papers were presented at the Annual Meeting:

- (1) DR. G. A. MILLER: 'On the groups which have the same groups of isomorphisms.'
- (2) PROFESSOR MAXIME BÔCHER: 'On regular singular points of linear differential equations of the second order whose coefficients are not necessarily analytic.'
- (3) DR. VIRGIL SNYDER: 'On cyclical quartic surfaces in space of n dimensions.'
- (4) DR. VIRGIL SNYDER: 'On the geometry of the circle.'
- (5) MR. W. B. FITE: 'A proof that the commutator subgroup of a group may contain operators which are not commutators.'
- (6) J. E. CAMPBELL, M.A.: 'On the types of linear partial differential equations of the second order (in three independent variables) which are unaltered by the transformations of a continuous group.'
- (7) PROFESSOR L. E. DICKSON: 'Proof of the existence of the Galois field of order p^r for every integer r and prime number p .'
- (8) DR. E. M. BLAKE: 'On plane movements whose point loci are of order not greater than four.'
- (9) PROFESSOR R. S. WOODWARD: Presidential Address: 'The century's progress in applied mathematics.'
- (10) PROFESSOR M. I. PUPIN: 'The propagation of electrical waves over non-uniform conductors.'
- (11) PROFESSOR HENRY TABER: 'The singular transformation of a group generated by infinitesimal transformations.'
- (12) DR. J. I. HUTCHINSON: 'On certain relations among the theta constants.'
- (13) PROFESSOR E. O. LOVETT: 'Singular solutions of Monge equations.'

COLUMBIA UNIVERSITY.

Secretary.

SCIENTIFIC BOOKS.

Everyday Butterflies. A Group of Biographies. By SAMUEL HUBBARD SCUDDER. Boston and New York, Houghton, Mifflin & Company. 1899. 12mo. Pp. viii + 386. 9 plates, 23 figures; 48 figures in text. Price, \$2.00.

This tasteful little volume contains an account of the life-history, habits, and distribution of sixty-two species of the commoner butterflies, which are found in the Eastern States and the Canadian provinces of Quebec and Ontario. It is illustrated by nine plates, eight of which are done in colors, the other being a carefully executed and faithful representation in black and white of an enlargement of the interesting chrysalis of *Feniseca tarquinius*, the curious aphidivorous habits of the larva of which are fully explained by the author. The illustrations in the text are numerous and excellent, and, with the plates, will enable the reader to easily identify the species when encountered in nature.

The study of butterflies is every year gathering new devotees, especially from the rapidly-growing leisure class, and the ranks of the young in our schools and colleges. No field of observation is more accessible and interesting, and none more likely to yield valuable results, from the standpoint of the biologist, than that of entomology. Books, like the one before us, which combine scientific accuracy with a grateful flavor of the woods and the fields, can not fail to stimulate those who are their happy possessors to make researches, which will give charm and delight to life, and may prove of positive scientific interest.

Everything which falls from the pen of Dr. Scudder possesses the merit of literary grace, and, with but very few exceptions, absolute scientific accuracy. If any adverse criticism in general could be passed upon the writings of our learned friend, it is that in his zeal for precision of description and thoroughness of treatment he at times becomes a little prolix. This, however, is a trait wholly absent from the pages of the present book, which are sprightly and popular in style, while profoundly instructive.

Issue must be taken with two statements made by the author on page 281. In speaking of the chrysalis of *Feniseca tarquinius* he says: "Curiously enough, a similar ape's face is seen in the chrysalis of an African butterfly of another genus not very closely related to *Feniseca*, and in an Indian species of the same Oriental genus. Now, in these two cases there is a

strong probability that their larval food is plant lice." The reference is to the chrysalis of *Spalgis s-signata*, Holland = *S. lemolea*, H. H. Druce, which I had the pleasure of describing and figuring in *Psyche* Vol. VI., p. 201, Plate IV., and to the chrysalis of *Spalgis epius*, Westwood, described and figured by Aitken in the eighth volume of the *Journal* of the Bombay Natural History Society, Plate A. A careful examination of the structural peculiarities and of the preliminary stages of the genus *Spalgis* shows that it is very closely related to our North American genus *Feniseca*, and any general classification of the lepidoptera belonging to the family Lycænidae which did not place these genera in propinquity would be in error. The statement of the author that in the case of the two species of *Spalgis* mentioned "there is a strong probability that their larval food is plant lice," overlooks the fact that in both cases the aphidivorous habits of the larvæ have been positively ascertained.

Points like these relating to the habits of exotic species, which are only alluded to in passing, do not in the slightest degree affect the value of the book for the circle of readers for which it is particularly intended, and it may be recommended as altogether one of the most pleasing and instructive contributions made in recent months to a branch of science which is daily growing in importance and popularity.

W. J. HOLLAND.

CARNEGIE MUSEUM, PITTSBURG.

Practical Exercises in Elementary Meteorology.
Ginn & Co., Boston. 1899. Pp. xiii + 199.

One does not expect a laboratory manual to be interesting, yet Mr. Ward's volume will prove attractive reading to any one interested in the teaching of meteorology. It contains materials for laboratory work for all school ages and includes the exercises that within a few years constituted the laboratory work in Mr. Ward's course at Harvard.

The author does himself injustice when he states the object of his book is "to lead the pupil to the independent discovery of the most important facts in our ordinary weather conditions." The very judicious comments that