dition on the coloration of the Ground Dove? That single experiment is quoted more than perhaps any other in exploiting the evanescent character of subspecific differences and so far as we know it has never been checked nor has very serious consideration been given to food or a variety of other factors that may have entered into it.—W. S.

Rowan and Others on the Nest and Eggs of the Common Tern.[1] The egg collector who applies for a collecting permit on the ground that he is engaged in "scientific research" would do well to consult this paper in order to appreciate the opportunity for real scientific research that is offered in the study of birds eggs. Only expert mathematicians will be able to follow intelligently the computations and calculations which are presented but the results and hypotheses are of interest to all. Briefly stated the work here reported consisted in the measurement of some 800 clutches of Tern's eggs with notes on the character of the markings and shade of color of the eggs and the nature and location of the nests in which they were deposited. With these data it was possible to prepare tables and to determine the probable correlation between certain measurements and colors, or between measurements and colors and character of nests, as well as the cause or meaning of differently colored eggs in the same nest. The work was accomplished by three field workers, one reporter and three tabulators and computers, and was in reality a continuation of a similar study carried on in the previous year. The final results show that the eggs averaged larger in 1914 than in 1913 and exhibited more uniformity, both due apparently to the bad season of 1913, when the very young and very old birds may have perished, and to the exceptionally favorable year of 1914, when food was unusually abundant.

In regard to shape of egg and character of nest it was found that the more nearly spherical eggs were in the most careless, and loosely constructed nests, while the denser brown and lighter green eggs were more often in nests without much material, i. e., mere hollows in the ground.

The resemblance of the color pattern to the nest brings in all sorts of complications. With eggs as variable as those of the terns it is inconceivable that the bird has, when building her nest, any conception of what her eggs are going to be like. As the authors say such an instinct would be conceivable in the case of a species laying uniform eggs and building a specific type of nest, but not in the present case. The fact that the terns were frequently found to begin laying before they gathered any nest materials would raise the possibility of their adapting the materials to the character of the eggs. Then comes the possibility of there being two

[1] On the Nest and Eggs of the Common Tern (*S. fluviatilis*). A Comparative Study. W. Rowan, E. Wolf, and the late P. L. Sulman, Field Workers; Karl Pearson, Reporter; E. Isaacs, E. M. Elderton, and M. Tildesley, Tabulators and Computers. Biometrika, Vol. XII, Nos. 3 and 4, November 26, 1919, pp. 308–354, plates II–VI.

types or genes of terns, one laying green eggs and the other brown. This would, however, necessitate mating always within the gens or the transmission of the egg coloring mechanism through the female only. The former is hardly conceivable while the latter is contrary to the experience of breeders that female characters are transmitted through the males. This theory too would require some Cuckoo-like females laying in the nests of other individuals to produce the varied sets of green and brown eggs in the same nests, which for various reasons does not seem credible. The most likely theory seems to be that any female tern may lay either a green or a brown egg but that with the physiological exhaustion incident to successive egg laying the nature of the pigment of the egg laying glands changes. This would explain the undoubted fact shown by the tables that the number of green eggs increases with the number in the clutch, there being 74 brown to 63 green in clutches of a single egg; 153 brown to 203 green in clutches of two; and 216 brown to 393 green in clutches of three. There are a number of admirable photographic plates showing the birds and nests and a color plate illustrating extreme phases of egg coloration. The paper is well worth careful study by those interested in the theories upon which it touches or in mathematical methods in research—W. S.

Report of the National Zoological Park.[2]—In his annual report as superintendent of the National Zoo, Mr. Hollister presents a number of interesting statistics. The number of species of birds in the collection is 190, exactly the same as last year, although the individuals are slightly more numerous. The death of the female Trumpeter Swan which had just been successfully mated with the male loaned by Mr. R. Magoon Barnes was a calamity, and until other specimens of this disappearing species can be secured will check any attempt to perpetuate it. Several birds, long residents of the garden, also died during the year, including a Crowned Hawk Eagle (*Spizaetus coronatus*), a resident for nearly 18 years; two tree ducks (*Dendrocygna arcuata*) which had lived there for 15 years and a Snowy Egret for eleven years.—W. S.

Ornithology of the Princeton Patagonian Expedition.—Part IV of this sumptuous work appeared in July 8, 1915. Like the preceding parts it is the work of the late Dr. R. Bowdler Sharpe and W. E. D. Scott, their manuscripts having been published with only slight changes in nomenclature and minor details. The editing has been done by Dr. Witmer Stone who will prepare the text for the remainder of the work as the manuscripts of the late authors were only completed to the end of the Accipitriformes. The present part covers pages 505–718, and includes the Pelecaniformes, Accipitriformes and Strigiformes.

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[2] Report of the Superintendent of the National Zoological Park for the Fiscal Year ending June 30, 1919. Ann. Rep. Smithson. Inst. for 1919, pp. 68–81, 1920.