with 1,404 in 1879. Still, the fact remains that the number is the smallest recorded since the meeting at Dover in 1899. And this, notwithstanding the fact that Sheffield has doubled its population in the last thirty years, and increased enormously also in wealth and importance.

Many reasons are given for this state of things. By some it is attributed to the large number of congresses annually held in various parts of the United Kingdom and the Continent; by others to the lack of interest taken by the general public in scientific progress; by others, again, to the highly abstruse and recondite nature of many of the papers submitted to the sections. It is pointed out, moreover, that the number of scientific societies and institutions has enormously multiplied during the last few years, and that in these bodies there is a steady and frequent supply of reports and papers similar in kind and quality to those which it has been customary for so many years to contribute once a year to the British Association.

One thing is certain: that the president and council of the association are alive to the situation. They have given and are giving earnest consideration to the question of how to maintain in a high state of efficiency an institution which has played so honorable a part in the advancement of science in the past; and are resolved to put forth every effort to maintain its prestige and add to its usefulness. It is recognized that there has been too great a tendency in recent years to the creation of what may be described as water-tight compartments. In some of the sections, moreover, the papers read have been of so technical a character as to preclude all possibility of comprehension of them by more than a small number of highly-trained experts. The British Association exists to welcome to its meetings the results of the latest and most advanced research, but there is every desire to minimize the disadvantages attendant on specialization. Hence the large number of joint sittings of sections, which has been a notable feature of the Sheffield meeting.—The London *Times*.

SCIENTIFIC BOOKS

The Vegetable Proteins. By THOMAS B. OSBORNE, Ph.D., Research Chemist in the Connecticut Agricultural Experiment Station, New Haven, and Research Associate of the Carnegie Institution of Washington, D. C. Pp. xiii + 125. New York, Longmans, Green, and Co. 1909.

It would be difficult to name a scientist better qualified to review the present status of our knowledge of the vegetable proteins than the author of this monograph. For twenty years Dr. Osborne has unremittingly devoted his energies to the investigation of the problems in this domain; and any adequate presentation of the chemistry of plant proteins must consist in large measure of a résumé of his own contributions to the subject. Out of the chaos of the earlier work there has been evolved a more systematic knowledge of a group of compounds whose importance is just beginning to win appreciation and application in many departments of biological chemistry. Barely receiving mention in the treatises of yesterday, the vegetable proteins are to-day obtainable in a degree of purity scarcely approached in the case of the comparable compounds of animal origin. They are therefore supplanting the latter as materials for the study of protein structure and metabolism; and the development of protein chemistry is likely to receive greater impetus in the immediate future in connection with the products isolated from plant sources.

The present monograph has been written with characteristic accuracy and betrays first-hand knowledge of both facts and literature on every page. Here one finds the first adequate historical review of the subject, beginning with Beccari's experiments with wheat flour (1747) and the early story of gluten. A brief description of the occurrence of proteins in the different parts of plants is accompanied by chapters on the following topics: basic and acid properties of proteins; their solubility, precipitation, denaturing, and physical constants; products of hydrolysis; classification;

and some physiological relations. In the last chapter are included such timely topics as toxalbumins, anaphylaxis, hæmagglutinins, and precipitin reactions.

Aside from numerous statistical tables of great value for reference, commendatory mention must be made of the unique bibliography of six hundred titles, itself one of the most useful, as well as the most complete, recent contributions to protein literature. No attempt has been made in the text to give working directions for students or investigators, or to furnish a descriptive account of the proteins. It is rather their properties, phenomena and relationships which are the subject of discussion. As an illustration of the helpful innovations introduced, the description of the acid and basic properties of proteins, and the relation of solubility to the free state or salt formation of proteins may be cited. The presentation is original and suggestive, in contrast with some of the current confusion of ideas on the subject.

The book is one of the series of Monographs on Biochemistry edited by R. H. Aders Plimmer and F. G. Hopkins.

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Our Search for a Wilderness, an account of two ornithological expeditions to Venezuela and British Guiana. By Mary Blair Beebe and C. William Beebe. Pp. xix + 387; appendices A, B and C. New York, Henry Holt and Co.

In "our Search for a Wilderness," Mrs. and Mr. Beebe have amply fulfilled the promise of their earlier book, "Two Bird-lovers in Mexico," and the present volume gives a delightful account of two journeys to northern South America. While the scientific results of these trips (and the collections made in their course) have been fully reported on by the New York Zoological Society, this narrative of the field experiences teems with interesting details of tropical life, and is written with evident enthusiasm and much charm. One closes the book with reluctance, and it can hardly fail to interest the casual reader, while to the student of nature, in whatever degree of advancement, every page carries some suggestion or graphically describes some picturesque circumstance. The authors went through their journeys with their senses all on the alert, and the vivid sensations of the humid Tropics are as real as mere words can paint them.

It is to the bird-lover, however, that the book must make its strongest appeal, and every effort has been made to render the necessarily random notes and observations as useful and as accessible as possible, by devoting an appendix to the species of birds observed, and indexing each species, in the text, with a corresponding number. By this reference it is always possible to tell at once what species is under discussion.

Many exceedingly interesting observations, paying high tribute to the open-mindedness and keen sensations of the observers, relate to the protectiveness, in actual use, of many apparently bold and conspicuous color-schemes. The "Owl Butterfly," so long used as an example of "warning colors," comes into his own, and is shown, photographically, to be a marvelous composite of its rough-barked sanctuary on the tree-trunk, the "owl's eye" proving to be, instead of a conspicuous warning eye, a beautifully painted hole in the bark.

In the appendix giving the local native names of birds, it is interesting to notice the old habit of calling new birds by old home names, on the slender thread of fancied resemblance, here, as in other English-speaking outposts. Thus the familiar name of the European red-breast, "robin redbreast," is given in North America to a large thrush, in Jamaica to a tiny crimson-throated kingfisher (*Todus viridis*), and in British Guiana to a ground-starling! In this same appendix are noted vernacular names of birds not given in the list of species observed, and we are left in the dark as to the identity of such interesting-sounding species as "four-winged cuckoo" and "speculum parrakeet."

One of the best chapters is the one relating to "A Gold Mine in the Wilderness" although, in the narrative, the pay-streak seems