physiologists in the service. All of us have the degree of doctor of philosophy in one of the biological (broad sense) sciences. We teach and do research in connection with problems of respiration, anoxia, air sickness, body temperature, and the like. With only one or two exceptions we are all anxious to return to academic life. We are an available pool of young scientists who will need positions when the war is over. In the Army Sanitary Corps, in the Quartermaster Corps and in the Navy you will find similar men.

However, we feel rather ignored, since practically none of us has been offered a civilian position to become effective upon discharge from the service. If the shortage of scientists is so critical and if the various university and commercial representatives are sincere, why have not the scientists, who are now temporarily in uniform, been approached in regard to post-war appointments?

Personally, the outlook is not too bright. Most university men with whom I have spoken recently maintain that they are making no postwar plans to take on additional faculty members. Where, then, does the shortage exist?

We have noticed that the National Research Council is planning to grant fellowships to aid young scientists in studying for the doctorate. We have not heard of any plan whereby trained scientists (now in the service) can get a six-month period of rehabilitation and "refreshing" between the time of discharge and the time they enter into new civilian duties.

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SCIENTIFIC BOOKS

CHARLES DAVIES SHERBORN

Squire: Memoirs of Charles Davies Sherborn. By J. R. NORMAN. 202 pages. 2 figs., 8 plates. London: George G. Harrap and Co. 1944. 15 shillings.

"SQUIRE" was a unique character among British scientists, and this biography by one of the most intimate friends of his later years is in many respects a unique book. By means of personal recollections, excerpts from Sherborn's letters and autobiographical notes and various anecdotes and reminiscences supplied by friends and colleagues, it re-creates the spirit of the man and reveals an aspect of the scientific life that is seldom seen in any country. It moreover gives an extraordinary insight into the working relationships of the group of famous scientists who brought honor to the British Museum and other official organizations and learned societies of England, as well as to themselves, in the last quarter of the nineteenth century and the first quarter of the twentieth century. Many an American zoologist, geologist and student of the history of science will gain much pleasure as well as profit by reading it.

Dr. Sherborn was a "born collector" and even before he left school in 1875, at the age of fourteen, he "had amassed quite useful series of shells, fossils, minerals, stamps, coins, books, autograph letters, historical and other documents, and even a few prints." Despite his lack of any advanced formal schooling, his entire life was spent in close association with research scientists and he not only helped many of them achieve success, but he made many contributions to knowledge on his own account, notably in stratigraphic geology, paleontology and zoology. His *magnum opus* was of course the *Index Animalium,* with its 440,000 references, the last part of which was issued in 1933. This monumental work involved the indexing of nearly 28,000 publications and was completed only after forty-three years of unremitting toil in the face of difficulties that required almost superhuman persistence to surmount. Would that all the thousands of scientists the world around who blithely consult it from time to time could be required to read Mr. Norman's account of the way this self-assigned task was accomplished! Surely they would all applaud the action of Oxford University in conferring upon "Squire" Sherborn the honorary degree of doctor of science, the only academic reward and almost the only official recognition he ever received throughout his long life of unselfish, quiet service in the cause of science.

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THE BIRDS OF CALIFORNIA

The Distribution of the Birds of California. By JOSEPH GRINNELL and ALDEN H. MILLER. Cooper Ornithological Club, Pacific Coast Avifauna No. 27. 608 pp., 1 color plate, 57 maps. Berkeley, Calif., 1944.

THE physiography of California and its effect upon meteorological phenomena have produced a notably large number of ecological niches. These are characterized not only by climates that can be quantitatively defined, but also by special associations of plants and animals. In extreme examples, such as that of the yellow-billed magpie, the correlation is one of thoroughgoing endemism. This bird (*Pica nuttallii*) occurs nowhere outside its limited range within the State of California.

Aside from climate of the proper kind, a further probably essential factor in habitable environment is presence of accessible water in dry seasons, needed not only to drink but in certain phases of nest-building; another is

relatively gentle winds rather than regular, strong winds, which factor seems in itself to bar this magpie from certain otherwise suitable areas. The total of requirements for the yellow-billed magpie is thus distinctly different from that of the American Black-billed Magpie . . . ; neither species would likely thrive for long within the range of the other [p. 294].

For sixty years the taxonomic and distributional study of California birds has been the interest of an extremely active group of ornithologists. The late Dr. Joseph Grinnell, senior author of the present monograph, often said that continuation of the undertaking offered problems enough to keep a growing company of workers busy for the next hundred years. His statement may be true, provided constant extension of the aims is taken into account, though it is difficult to see how any refinement of technique could broaden the scope or improve the usefulness of the present volume without rapidly encountering limitations imposed by the law of decreasing returns.

The work covers 427 species (644 species and subspecies) of California birds. Of these, 273 species (423 species and subspecies) breed within the State. 84 species are represented by more than 1 race: 38 by 2 races, 21 by 3, 11 by 4, 3 by 5, 3 by 6, 3 by 7, and single species have, respectively, 8, 10, 13, 15 and 18 races. California song sparrows comprise no fewer than 14 races, the breeding ranges of several of which are restricted to extremely small ecological niches. A colored frontispiece portrays the distinctive plumage characters of eight of these forms, and a distributional map on page 548 shows the ranges within the State of all 14.

After an introduction of eight pages, the work opens with a systematic list of the species and subspecies of California birds. This includes both technical and vernacular names, in both of which the authors make certain departures from the A. O. U. Check-List of North American Birds, a step taken deliberately and ably defended in the introduction. Then follows the general account of the native birds of the State, which occupies the bulk of the volume. The treatment includes a list of synonyms; a paragraph on the status of the form in California; a longer paragraph on the geographic range, which lists the published sources and gives a succinct and illuminating insight into the nature of earlier findings. The final heading under each form relates to the habitat of the bird within its seasonal or permanent geographic range. A total of 57 clear distributional maps adds greatly to the usefulness of the admirable text.

Pages 557 to 576 are devoted to introduced species and to those of uncertain or legendary status. By such means the authors have removed from the body of their book material of a kind that has long cluttered up the text of countless other works on ornithology, while at the same time they have not deprived their readers of information that has a special interest in its own right. The work closes with an index covering all scientific and popular names of every species and subspecies.

The book as a whole fulfils expectations built up by the senior author, who is no longer living, and the junior author, who still carries on in the same tradition. There is not a word of padding in its 608 pages. Its text is stark but sufficient, and it offers a direct guide to the best sources of more detailed information. Space precludes further consideration of a particular sample of the text, but the reviewer can not forbear a reference to the common cliff swallow of California which, according to seasonal press releases, arrives each year at the mission of San Juan Capistrano on March 19 and departs with equal regularity on October 23, taking due account, if we are to believe the newspapers, even of the quadrennial shift produced by leap year. Grinnell and Miller have no space in their compact text for a reference to the pious tale, but in discussing the status of this swallow in California they note that the "dates of arrival and departure are greatly variable with year and locality."

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