

remarkable species, such as the mound-building megapodes and the bower-birds, were quite triumphs in the way of field ornithology. Nests and eggs were collected, as well as an excellent series of skins, both of mammals and birds; and here Mr. Gould's beautiful method of preparation was especially noticeable. Some of his specimens, skinned more than thirty years ago, are as neat in appearance, and as fresh, as the day they were prepared. Returning in 1840, after two years' absence, he commenced the great work on the "Birds of Australia," which makes seven folio volumes, and occupied seven years in its production, being completed in 1848. One of the features of this work is the great increase in our knowledge of the range and habits of petrels and other sea-birds, to which the author paid great attention during his travels, and is by far the most important, from an ornithological point of view, of all Gould's works.

Within a year of Mr. Gould's return from his adventurous voyage, he had the misfortune to lose his wife, and for some time he was completely overwhelmed by his bereavement. His collectors in Australia too, about the same period, lost their lives. One of them, Mr. Gilbert, was killed during Dr. Leichhardt's expedition overland from Moreton Bay to Port Essington; and Mr. Drummond, while collecting in western Australia, was also murdered by natives; and a third collector was killed by the explosion of a gun on one of the islands of Bass's Straits. It speaks volumes, however, for the zeal and energy with which Mr. Gould had prosecuted his researches in the Australian continent, that very few birds (sufficient only to form a supplement in a single folio volume) have been discovered since he left the field of his labors in that quarter of the globe.

Another landmark in the career of this great ornithologist was the publication of his "Monograph of the Trochilidæ, or Family of Humming-Birds." These lovely little birds had been for a long time favorites with Mr. Gould, who gradually began to amass that fine collection which has been the admiration of naturalists for so many years. Taking advantage of the great exhibition of 1851, he obtained permission from the Zoölogical Society to erect, at his own cost, a large building in their gardens in the Regent's Park, where the collection was open to the public at a charge of sixpence per head. A considerable sum was realized by this exhibition, and a large number of subscribers to his monograph were obtained, including nearly all the royal families of Europe. Though sketched by Mr. Gould himself (for even to the last days of his life he executed the designs for all his plates), the majority of the humming-birds were placed on stone by Mr. Richter, who also did the same for Mr. Gould's next work, the "Birds of Asia." This work, though not completed at the time of his death, aged seventy-six, on Feb. 3, 1881, was brought to a satisfactory conclusion by Mr. R. Bowdler Sharpe, F.L.S., F.Z.S., etc., of the British Museum, acting on behalf of Messrs. H. Sotheran & Co., who have since brought his other unfinished works to completion, as hereafter mentioned. It is most valuable on account of the number of plates of species not figured elsewhere. The "Mammals of Australia," produced simultaneously with the last-mentioned work, deserved, in Mr. Gould's own opinion, more credit for its issue than perhaps any work he had done, because it touched upon a branch of zoölogy of which he never pretended to have any very exact knowledge. So large, however, had been his collections of *Mammalia* during his sojourn in Australia, that some account of them seemed to be demanded, and he therefore published his large folio work; but the pecuniary results were less satisfactory than with any of his ornithological productions. His typical specimens of the Australian *Mammalia* are in the national collection. No sooner were the humming-birds finished than his active brain conceived a new idea, to illustrate becomingly the birds of his native land, and he commenced the publication of the "Birds of Great Britain." Opinions may differ as to the merit of Mr. Gould's other works; volumes less ponderous than the folios which he adopted for the better figuring of the objects of the natural size may take their place with the student; but no work of greater beauty will be produced than that on which John Gould, returning in his later life to his first love, bestowed the fulness of his energy and the acme of his artistic talent. The care bestowed on the plates of this work was remarkable, the aim of the author being to produce a picture

of the birds as they appeared in their natural haunts; and especial pains were bestowed on the young, particularly those of the wading-birds and natatores. In this fine work most of the drawings were developed and placed on stone by Mr. W. Hart, who also executed all the plates of the later works.

In 1865, Mr. Gould republished his letterpress of the big work in an octavo form, under the title of "A Handbook to the Birds of Australia," but with all the additional species inserted in their proper families: these two volumes are therefore of great use to the student. After the completion of his work on "British Birds," Mr. Gould devoted himself to the continuation of the "Birds of Asia" and the supplement to the "Birds of Australia," until, in 1875, he commenced a work on the "Birds of New Guinea," which was to contain also descriptions of any new species that might be discovered in Australia or any part of the Australian region. Of the last-named work, eleven parts had appeared at his death, and it has since been completed by Mr. Bowdler Sharpe. The following works were also left unfinished: "A Monograph of the Pittidæ, or Ant-Thrushes of the Old World" (one part published); and the supplement to the "Monograph of the Humming-Birds," which has also been completed by Mr. Sharpe, with the co-operation of Mr. Osbert Salvin.

The above list enumerates all the works published by Mr. Gould, with the exception of the "Icones Avium" (issued about 1838, and containing supplementary plates to his previous volumes, with descriptions of new species), "A Monograph of the Odontophorinæ, or Partridges of America," "Synopsis of the Birds of Australia," and "A Monograph of the Macropodidæ" (published in 1841-42). In addition to the folio volumes, he was also in the habit of reprinting the introductions to his larger works in an octavo form for presentation to his friends.

#### BOOK-REVIEWS.

*Hints for Teachers of Physiology.* (Guides for Science-Teaching, No. XIV.) By H. P. BOWDITCH, M.D. Boston, Heath. 24°.

AT the present time physiology is taught in most of the grammar-schools; and the author has attempted to show how a teacher may supplement text-book instruction by means of simple observations and experiments on living bodies or on organic material, thus imparting to the pupils a knowledge of the foundation on which physiology rests, and at the same time bringing the impressions made on the senses to aid the memory in retaining the facts communicated in a purely didactic way. The reputation of Professor Bowditch as one of the foremost physiologists of America is a guaranty that the advice which he gives is based on scientific principles, and we heartily commend this manual to all teachers of physiology. Even those who are giving instruction to students more advanced than those in grammar-schools will find here many useful hints and suggestions.

*The Leading Facts of French History.* By D. H. MONTGOMERY. Boston, Ginn. 12°. \$1.25.

THIS work is intended for the use of schools, and is well adapted to its purpose. It treats, as its name implies, of the leading facts only, very few passages being filled with detail; and the story is in the main well told. The author's style is simple and easily understood, and the book is divided into sections with suitable headings for the student's use. Its principal defect is that it is almost exclusively a political history; the general progress of civilization, and the more special histories of literature, science, philosophy, and art, being almost wholly neglected. Mr. Montgomery puts on his titlepage the remark of Guizot, that "there is hardly any great idea, hardly any great principle of civilization, which has not had to pass through France in order to be disseminated;" but, owing to the scanty information furnished about the progress of civilization, this remark receives but slight illustration from this work.

The political history itself, however, is well treated, the really important topics being put in the foreground, while battles and court intrigues are relegated to their proper place. The earliest periods of French history are of course passed over somewhat lightly, but as much is said about them as most students will care for, and particular care is taken to show how the kingdom grew

from a comparatively small district around Paris to its full development. Coming down to later times, the author exhibits pretty clearly the growth of arbitrary power and of the unjust privileges of the nobles, and repeatedly dwells on the misery which these produced among the masses of the people. Thus he prepares the way for an understanding of the Revolution, which of course occupies a considerable share of attention. In this part of his work, however, it seems to us that he dwells rather too much on the horrors that were then enacted, and too little on the benefits that the Revolution ultimately brought. Napoleon is treated with justifiable severity, while at the same time his good deeds are duly acknowledged, and certain incidental benefits of his conquests are pointed out. The present condition of France is regarded as hopeful, and her prosperity as well grounded. Mr. Montgomery's work will be useful not only to students, but also to private readers who wish for a general sketch of French history unencumbered by useless details.

#### AMONG THE PUBLISHERS.

THE two articles on agnosticism, in *The Popular Science Monthly* for April and May, will be followed by two more in the June number. One of these is by Professor Huxley, in rejoinder to Dr. Wace and the Bishop of Peterborough; the other, by Mr. W. H. Mallock, is entitled "Cowardly Agnosticism," and criticises Professor Huxley's objections to the above phrase, expressed in his first article. "The Production of Beet-Sugar," including the method of growing the plant, and the processes employed in ex-

tracting the sugar, will be described by Mr. A. H. Almy. This account, together with the paper in the May *Monthly*, gives a complete view of an industry which has yielded large profits to the farmers of Germany, and promises to become equally important in this country. Widespread interest has been manifested in the article on "Christian Science," in the April *Popular Science Monthly*, and nowhere more than among the healers themselves. Of the several replies offered by members of this fraternity, the *Monthly* will publish one in the June issue, by Mr. J. F. Bailey, editor of the *Christian Science Journal*, under the title "Is Christian Science a Craze?" An editorial in the same number will clearly state the position of the magazine on this subject. "Glaciers on the Pacific Coast," is the title of an illustrated descriptive article, by Professor G. Frederick Wright, to appear in June.

— The articles on "The Practical Applications of Electricity," which begin in the June *Scribner*, will, it is announced, be as complete a picture of the present position of electricity in the industrial world as the Railway Series is of the great subject of transportation. The men who have been secured to write these articles are acknowledged authorities in the subjects of lighting, telegraphy, medical electricity, etc., including among their number President Morton of Stevens Institute; C. L. Buckingham of the Western Union; A. E. Kennelly, Mr. Edison's chief electrician; Dr. M. Allen Starr; and Professor Brackett of the Princeton Scientific School. W. A. Linn, of the New York *Evening Post*, has written for the number a complete popular account of the origin, growth, and present management of that form of co-operation known as

Publications received at Editor's Office,  
April 29-May 4.

CLIMATOLOGY and Meteorology, List of Books and Articles on, in the Library of the Surgeon-General's Office, United States Army. (Extract from the Index Catalogue.) Washington, Government, 17 p. 8°. GUTTENBERG, G. A Course of Mineralogy, for Young People. Second Grade. Erie, Penn., The Author. 44 p. 16°.

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