one block from the Brooklyn Institute, where the sessions of the association will be held, and but three blocks from the Bridge. It will be open to the public on Oct. 22, at 1 P.M., and will continue open until Dec. 1. Admission free. For particulars relative to the exhibit, address the chairman of the committee, Dr. A. N. Bell, 113A Second Place, Brooklyn, N.Y.

By invitation of Dr. William M. Smith, health-officer of the port of New York, the association will visit the New York Quarantine Station. For this purpose Dr. Smith has placed at the service of the association a commodious steamboat. The trip will probably be made Wednesday afternoon, Oct. 23.

The local committee of arrangements will issue a circular giving full information regarding reduced hotel rates, railroad fares, etc., a copy of which will be sent to every member of the association. Others desiring a copy should make application to the chairman of the committee, Dr. J. H. Raymond, 173 Joralemon Street, Brooklyn, N.Y., to whom all communications relative to local matters in connection with the meeting should be addressed. The usual rate of one and one-third fare for the round trip has already been secured over the Trunk Line, Central, and Southern Traffic Associations, and it is expected that the same rates will be obtained from the other traffic associations. To secure the reduced rates, a certificate must be obtained from the ticket-agent at the starting-point, certifying that the holder has paid full fare going to the meeting, over what lines he has travelled, etc., which certificate must be countersigned at the meeting by the secretary in order to secure the one-third return fare.

EXHIBITERS TO WHOM AWARDS HAVE BEEN MADE AT PARIS.

THE principal awards to American exhibiters at the Paris Exposition are as follows: —

GRAND PRIZES. — Boston public schools; Washington Bureau of Education; Washington Bureau of Ethnography; United States Service of Meteorology; United States Commission of Geology; United States Ministry of War; New York University; Rensselaer Polytechnic Institute, Troy; Smithsonian Institution, Washington; Johns Hopkins University, Baltimore; the Century Company, New York; Fairchild, New York, gold pens; United States Geological Survey; United States Signal Service, A. W. Greely, chief officer; United States Naval Observatory; Mr. Howland; United States Coast and Geodetic Survey; United States Army, Corps of Engineers; T. G. Hawkes, New York, crystal; Tiffany & Co., New York, silverware; J. B, Stetson, Philadelphia, fine fur hats; Winchester repeating arms; J. A. Fay & Co., Cincinnati, timber machines; Healey & Co., New York, carriages; Pennsylvania Railroad Company; Bell Telephone Company; Thomas A. Edison; Elisha Gray, Illinois, telegraphy; Elihu Thomson, Lynn, Mass., electrical appliances; Government Bureau of Engineers; United States Exhibit of Cereals; Bergher & Engel Brewing Company, Philadelphia; C. A. Wetmore, California, wines; United States Department of Agricultural Statistics; United States Farms; C. V. Riley, specimens of phylloxera work; United States Agricultural Department of Viticulture; Labor Departments of the United States reports.

GOLD MEDALS. — E. Barnes & Co.; Ivison, Blakeman, & Co.; Board of Education, Wisconsin; Buffalo public schools; Department of Public Instruction, California; Department of Public Instruction, Iowa; Elizabeth (N.J.) public schools; Moline (Ill.) public schools; Bureau of Education, Washington; National Deaf-Mute College, Washington; Ohio, commissioner of schools; Perkins Institute for the Blind, Massachusetts; Pittsburgh public schools; Sockanossett School for Boys; State Public School, Coldwater, Mich.; Indiana Industrial School; Galveston public schools; Boston public schools; State of Massachusetts, Department of Public Instruction; public schools, California; public schools, Wisconsin; public schools, Michigan; American Museum of Natural History, New York; Chicago Public Library; Eastman College, Poughkeepsie; Manual Training School, Philadelphia; Massachusetts Institute of Technology, Boston; Houghton, Mifflin, & Co., Cambridge, Mass.; Lippincott & Co., Philadelphia; Merriam, Springfield, Mass.; New York Bank Note Company; Warren & Co., papers, Boston; Tiffany & Co., jewelry; Prang & Co.; Barker, photographs, New York; H. A. Rowland; Eastman Dry Plate Company; Manual Training School, St. Louis; University of California; Darlin, Brown, & Sharpe, Providence; Herman Hollerith, Washington; Mr. Gardner; J. P. Lesley, State geologist of Pennsylvania; Heywood Brothers, New York, furniture; C. E. Henry, Indianapolis, glass; John Lafarge, New York, stained glass; Rookwood Pottery Company, Cincinnati; Gorham Silverware Company; Meriden Britannia Company; Colgate & Co., New York, perfumery; Ladd & Coffin, New York, perfumery; William Demuth, New York, pipes; Tiffany, leather goods; Marks's folding-chair, New York; Boston Rubber Shoe Company; Mayer, Strouse, & Co., New York, corsets; Beneke Brothers, New York, boots; Dunlap, New York, hats; War Department, uniforms; N. J. Schloss & Co., New York, clothing; Colt's fire-arms; Smith & Wesson; Union Metallic Cartridge Company; White Sewing-Machine Company, Cleveland; Mackellar, Smith, & Co., New York, printing type; American Writing Machine Company, Hartford; Remington typewriter; Hammond typewriter, New York; Cobb Vulcanite Wire Company; Heisler Electric Light Company, St. Louis; Okonite Company, New York; Western Electric Company, Chicago; Sprague Tramway Company; Volta Graphophone Company; Herring & Co., New York, safes; Yale Manufacturing Company; Inman Steamship Company; Chicago and Minneapolis Boards; Glen Cove Manufacturing Company; C. A. Pillsbury of Minneapolis; Green Mountain Stock Farm; J. H. Michener & Co., Philadelphia, lard; Armour & Co., Chicago, canned meats; Curtice Brothers, canned meats; Cassard & Co., Baltimore, dried meats; Michener & Co., dried meats; Morris & Co., Chicago, canned meats; Swift & Co., dried meats; Maillard, New York, bonbons; Beadleston & Co., lager beer; California State Viticultural Commission; Chauche & Co., California, wines; J. Kunz, New York, beer; Montgomery Brewery Company; Megliavalla, California, wines; J. Osborn & Sons, New York, whiskey; United States agricultural maps and charts; Enterprise Manufacturing Company; Richmond Cedar Works; Clayton & Co., gratings; H. O. Nelson; N. P. Gilman; C. D. Wright; Publication Agency for Johns Hopkins University; Universal Peace Union, Philadelphia; New York and Massachusetts Labor Departments; Woman's Christian Temperance Union.

BOOK-REVIEWS.

Essays upon Heredity and Kindred Biological Problems. By AUGUST WEISMANN. Authorized translation by Edward B. Poulton, Selmar Schönland, and Arthur E. Shipley. Oxford. 8°.

PROFESSOR WEISMANN'S essays on various general problems of biology have never been collected, but have remained more or less inaccessible in sundry journals or as separate pamphlet publications. Being now brought together in a single handsomely printed volume, they will doubtless attract a wider attention not only from naturalists, but also from thoughtful general readers. The author's presentation of his subject is, except in two or three minor essays, such that his arguments may be followed without the detailed knowledge of a specialist.

The translations are very well done, for the English, while idiomatic, renders accurately the meaning of the original German; so that the volume is a thoroughly trustworthy reproduction of Professor Weismann's theories. These theories are full of suggestiveness, and contain many original conceptions. It must be recognized that their influence will be far felt, especially as opposing some of the ideas concerning heredity, sexuality, death, etc., which tradition has rendered current, one might almost say orthodox, in the biological world. There is in biology, around the finished area, — the woven tissue of science, — a fringe of dogma; and playing with this fringe is to certain minds a favorite occupation. We see sober investigators, who are conscientious within the region of the provable, become intoxicated when they attempt to pass outside this region. They then madly maintain dogmas, asserting positive views as to the nature of life, which is entirely beyond their power to justify. This special tendency is so infectious that the majority of biologists are affected by it, and defend their par-

ticular idea as to vitality with an acrimony which makes it unbecoming for any biologist to speak slurringly of the *odium theologicum*. Now, Professor Weismann leads attention back to scientific sobriety as regards these wide-reaching problems about fundamentals, and thereby renders a most welcome service; for, after all, it is pleasant to leave the *feux follets* for the sake of genuine light and real safety.

One is obliged to dissent from many of Professor Weismann's views, which are marked by that vagueness that is so characteristic of German philosophic generalizations. Some of his conclusions we already know to be deficient and even erroneous. This is notably the case with his conception of death, to which he recurs frequently, for he fails to make the obvious distinction between the death of a unicellular and that of a multicellular organism. A colony is not homologous with its units, and the breaking-up of a colony is not homologous with the destruction of an individual; yet Professor Weismann makes it so. But the value of a book lies not in its faults or deficiencies; and, though these need to be noted as making its limitations, a book is to be judged by its merits.

The book before us is one of many and signal merits. The first essay, on the duration of life, was originally presented to the world in the form of an address to the German Naturforscherversammlung at Salzburg in September, 1881, and was shortly after published in pamphlet form at Jena. It deals with the duration of life, and constitutes the basis of the subsequent essays of the series. The second essay, on heredity, followed two years later, and completes in outline the author's theories. The remaining six essays serve essentially to elaborate and supplement the first two. The most important contribution to thought is the defence of the theory of germinal continuity against Darwin's theory of pangenesis as an explanation of heredity. The hypothesis of germinal continuity was originated by Moritz Nussbaum, to whom the first credit belongs: but Weismann has so identified himself with its defence and amplification, that we may say that the gradual acceptance of the hypothesis in place of that of pangenesis is due principally to his teaching. He has adduced numerous facts, and numerous interpretations in favor of his position; and it is, we believe, not too much to say that within a short time the new theory of heredity must find general acceptance. Those, therefore, who wish to keep abreast with the tendencies of biological advance must read Weismann, and *must* not only on account of the theory we have specially referred to, but also on account of other fresh thoughts and ideas which vivify his interesting pages.

European Schools. By L. R. KLEMM. New York, Appleton. 12°. $2.

THIS book is the latest issue in the International Education Series, in which it well deserves its place. The author spent a year or so in visiting the schools of Germany and France, with short trips to Switzerland and Vienna. Most of his attention was given to the German schools, and his account of these is full and interesting. He is evidently a keen observer, and studied the schools he visited with great care and diligence. The matters of which he treats are generally of great interest, though manual training and drawing are accorded altogether too much space in proportion to their importance. These subjects and some others are largely illustrated from drawings by the author himself. Mr. Klemm reports nothing of special interest from France or Vienna, while in Switzerland he seems to have been almost disgusted with what he saw. He condemns the Swiss schools in unmeasured terms as ill furnished and worse taught, and it is only in Germany that he finds much that he regards as an improvement on what we have in America.

The difference of method between the German schools and ours is indeed great; but whether we should do well to abandon our methods for theirs is questionable. The distinctive characteristic of German teaching as described in this book is the absence of text-books, the instruction being conveyed orally by the teacher. This is the case, for instance, in geography, physics, and natural history; and it is obvious that the introduction of such teaching into American schools would amount to a revolution. But the method of question and answer employed by the German teachers, of which Mr. Klemm gives many interesting examples, is unquestionably of great value, being fitted not only to test the pupil's knowledge, but also to make him think. Object-lessons, it appears, have gone out of favor in Germany; but, on the other hand, drawing is employed to illustrate every subject that requires such illustration. A particular account is given of a "school for dullards" at Elberfeld, which has proved a very useful institution.

Mr. Klemm attributes the excellence of the German schools largely to the careful training of the teachers, and accordingly devotes some space to a description of the normal schools. He reports, however, that there is at present a scarcity of teachers in the kingdom of Prussia, — a fact which he attributes to the low salaries paid, it being easy for intelligent men to get higher pay in other employments. The teachers, nevertheless, are enthusiastic in their work, and, though subject to strict rules, show a good deal of individuality in their teaching. Women teachers are comparatively rare in Germany, and there is a strong prejudice against them; but this will doubtless disappear in the course of time. We cordially commend Mr. Klemm's book to the attention of American teachers.

The Key to Theosophy. By H. P. BLAVATSKY. London, Theosoph. Publ. Co.; New York, W. Q. Judge. 12°.

THIS work is intended as an introduction to theosophy, and is written in the form of a catechism. It gives some account of the character and objects of the Theosophical Society, and then goes on to expound the leading doctrines that theosophists believe in — or pretend to believe in. The doctrines chiefly dwelt on in this book are pantheism and metempsychosis; but we think the reader will understand them less after perusing Mrs. Blavatsky's account of them than he did before. The practical aims of theosophists, it seems, are virtually identical with Christian charity, and it is only on speculative questions that the new sect antagonizes the world. It is very unfortunate that the real esoteric doctrines of the sect are so profound, that, as we are told, only a very few persons can comprehend them; and we are sorry to say that we are not among the favored few. Indeed, we should incline to characterize much of this book as rank nonsense, if we were not solemnly assured by the authoress that "theosophy is synonymous with everlasting truth." She refers feelingly to the fact that the Society for Psychical Research had employed a man to investigate some of her statements, and had characterized her as "the most accomplished impostor of the age," and says that she regards them with contempt, and that she will not abandon her principles because they have been attacked by "a flock of stupid old British wethers, who had been led to butt at them by an over-frolicksome lambkin from Australia." Evidently theosophy and modern ideas don't agree well together, and we fear that Mrs. Blavatsky and her co-religionists will have a hard task to convert the world to their views.

Iron and Steel Manufacture. By ARTHUR H. HIORNS. London and New York, Macmillan. 16°. $1.

BEGINNERS in the study of metallurgy will find this an excellent little work from which to gain a knowledge of the fundamental principles of the various processes employed in the manufacture of iron and steel. They will also find it a compendium of the various properties of those metals, so far as those properties can be treated in an elementary manner.

The book, of course, will not supersede any of the larger and more exhaustive manuals on the subject, nor is it intended by the author that it should do so. It is designed merely as an elementary treatise to prepare the student for a more advanced course of study, though manufacturers and workmen connected with trades in which iron and steel are used will find much of its contents of value to them. For the convenience of those having but a limited knowledge of chemistry, a chapter is devoted specially to a discussion of chemical principles and changes, so far as they have a bearing upon the subject of which the volume treats. The book is fully illustrated, and furnished with a very complete index.

AMONG THE PUBLISHERS.

THE Elder Publishing Company, Chicago, have nearly ready "Birds and Butterflies," a book for boys and girls, by M. G. Musgrave.