

tions occur in accordance with the law of "effort and abstinence."

As to whether acquired characters are inherited, Mr. Syme offers no definite opinion; and hence the most important question in this connection remains unanswered. For, if modifications resulting from the response of an organism to new influences affect only the passing generation, it is difficult to understand how they can become fixed, as they certainly do.

It should be stated further that Mr. Syme avows a belief in the existence of "vital force," which is the cause of the phenomena of life and is inherent in the living cell. He asserts that Lewes's ridicule of this idea was due to his misunderstanding the questions involved.

Our space does not admit of more than a brief mention of Mr. Syme's objections to the theory of natural selection, but many of them deserve serious attention. The case of the relation of humble-bees to clover may be cited as an example. Darwin states that "humble-bees alone visit red clover, . . . hence we may infer as highly probable that if the whole genus of humble-bees became extinct or very rare in England, . . . the red clover would become very rare, or wholly disappear" (*Origin of Species*, Ed. 1880, p. 57). On this point Mr. Syme remarks: "Darwin says that *T. pratense* will not produce seed unless it has been visited by humble-bees. . . . But this is quite a mistake. Red clover seed had been grown and exported from New Zealand long before the humble-bee was introduced there; and I am informed by one of the leading Melbourne seedsmen that he has been supplied with this seed, grown in the western district of Victoria, for the last 17 years; although no humble-bees have ever been introduced into that colony" (p. 112). It does not seem possible that both these statements can be true.

Many similar facts regarding the relation of insects to the color and form of flowers, the results of cross-fertilization, and the significance of secondary sexual characters, are cited by Mr. Syme in his endeavor to prove the falsity and insufficiency of the theory of natural selection.

F. W. T.

*The Apodida. A morphological study.* By H. M. BERNARD. *Nature Series.* London and New York, Macmillan & Co. 8°. \$2.

THIS is an extremely interesting study of the Phyllopod crustaceans, *Apus*, *Lepidurus*, etc., with the view of using them as a key to solve the problem as to the origin of the crustacea and the true affinities between the different groups. His study has led the author to the conclusion that *Apus* is derived from a carnivorous annelid, whose five anterior segments have become ventrally bent over. He believes he has shown the trunk of *Apus* to be a true link between the many segmented annelids and the crustacean fewer-segmented body, that it exhibits a gradual transformation of the annelidan cuticle into the crustacean exo-skeleton, while the annelidan parapodia are shown to be capable of developing every form of crustacean limb, *Apus* supplying the clue. In short, he regards *Apus* as affording an almost ideal transition form between the annelids and crustacea. Further, he shows that if this is true for *Apus*, the long-contested *Limulus* or horseshoe crab and the Trilobites must have had a similar origin. He concludes that while only one group of modern crustacea admits of derivation from the Trilobites, all the rest except *Limulus* can be deduced from the *Apodida*.

Whether this hypothesis be finally accepted or not, the author's discussion throws light on many contested points, and cannot fail to have a beneficial influence on future discussions and theories of classification of the animals to which it relates.

*Lessons in Elementary Biology.* By T. JEFFREY PARKER. London, Macmillan & Co. 8°. \$2.25.

PROFESSOR PARKER, a well known pupil of Huxley and professor of zoology in the University of Otago, New Zealand, has endeavored in this work to give an account of the structure, physiology and life history of a series of typical organisms in the order of their increasing complexity. He begins with the unicellular organisms *Amœba*, *Hæmatococcus*, *Heteromita*, *Euglena*, *Proto-myxa*, *Mycetozoa*, *Saccharomyces*, and *Bacteria*. He then takes

up those unicellular forms in which there is an increasing complexity, such as *Paramoccium*, *Foraminifera*, *Diatorus*, and *Mucor*.

Next come organisms, in which complexity is attained by cell multiplication, though with little differentiation, fungi, and algæ; then solid aggregates in which differentiation is a marked factor, such as *Hydra* and *Porpita*. From these he proceeds to polygordius, mosses, and ferns. About fifteen pages are given to the higher types, starfish, crayfish, mussel, and dogfish, and to the higher plants, and special discussions on cells and nuclei. Biogenesis, homogenesis, origin of species, etc., are discussed in special chapters. In general, little criticism is suggested by the facts stated. For the teacher it may be said to be wholly unfit for elementary work, properly so-called. The author revels in a truly Lankesterian polysyllabic vocabulary, which the 13-page double-column index by no means fully explains. A very disproportionate amount of space is given to a few low types, and the pupil cannot obtain any general idea of the animal kingdom from the book without an amount of knowledge, insight, and study not to be expected of beginners. We should think the book well adapted to deter any student who was obliged to use it from taking any further interest in the study of biology, though an accomplished teacher might find it suggestive of what to avoid in his work.

#### AMONG THE PUBLISHERS.

THE Duke of Argyll will publish in the fall a book called "The Unseen Foundations of Society," which is described as an examination of the fallacies and failures of economic science due to neglected elements.

— The New York History Co., 132 Nassau St., N. Y., have just ready the second volume of the "Memorial History of the City of New York."

— Harry de Windt has written a book entitled "Siberia as It Is," which appears to be a defence of the Russian system of prison management, and is intended to be a reply to Mr. George Kennan and other travellers and writers who have attacked that administration as a system of "cruelties and atrocities which is a disgrace to a civilized country and to the nineteenth century."

— It is thought that it may be possible to bring out additional volumes of Freeman's "History of Sicily," so large is the mass of MSS. left by the historian. The MS. referring to the Norman conquest is practically complete, and would form a volume by itself. Besides all this, Freeman left more or less complete materials for a history of Rome down to the time of Mithridates; considerable fragments of a history of Greece; a work on King Pippin; a fragment of Henry I.; and some other manuscripts.

— W. B. Saunders, 913 Walnut Street, Philadelphia, have just ready "A New Pronouncing Dictionary of Medicine," by Dr. John M. Keating and Henry Hamilton. The work is a voluminous handbook of medical, surgical, and scientific terminology, containing concise explanations of the various terms used in medicine and the allied sciences, with phonetic pronunciation, etymology, etc.

— The F. A. Davis Company, Philadelphia, have just ready a new edition (the tenth) of the "Book on the Physician Himself, and things that concern his reputation and success," by Dr. D. W. Cathell, of Baltimore. The Davis Company will publish early in September "The New Pocket Medical Dictionary," compiled by Dr. David Braden Kyle from the latest authorities, and containing words recently introduced into medicine; also, addenda of abbreviations, affixes, list of diseases known by proper names, list of poisons and their antidotes, etc.

— The Clarendon Press has just issued a collection of the principal speeches delivered during the French Revolution, edited by Mr. H. Morse Stephens, the English historian of that period. The orators chosen are eleven in number, including Mirabeau, Barère, Danton, Robespierre, and St. Just. Prefixed to each is a life and explanatory comment; while a general introduction deals with

French oratory in general and the oratory of the Revolution. Many of the speeches have not before been reprinted, even in France; and special attention has been paid to securing an accurate text, and to the spelling of the proper names.

— W. H. Allen & Co., London, are going to bring out with all speed Dr. Steingass's "Persian-English Dictionary," which has been six years in preparation, and which has been subsidized by the secretary of state for India. Another book is to appear in October, viz., two volumes on the history of the land revenue of Bombay, by Mr. A. Rogers, a retired civilian, who has searched the records at the India Office and traced the various changes introduced since the days when the Marathas handed over the task of gathering the revenue to the highest bidder. The work will be illustrated by a map of each collectorate, reduced from maps supplied by the Government of Bombay. Mr. Demetrius Boulger is going to write for Messrs. Allen a popular history of China.

— The August number of *The Mother's Nursery Guide* contains a number of articles that will be valuable to mothers of young children during the present season. Dr. H. D. Chapin, in an article on "Catarrh of the Stomach," gives explicit directions as to the diet necessary in this common ailment; the medical editor describes "Some Improvements in the Preparation of Infants' Foods," and Dr. S. M. Ward has a paper on "Intestinal Worms," which in some respects runs counter to the prevailing

medical opinion on that subject. He says: "I am constrained to believe that young physicians pooh-pooh the suggestions of mother and grandmother too often, when asked if worms may not be the cause of certain symptoms which the child presents." The article will be found very suggestive and practical. The "Mothers' Parliament" contains letters on "Summer Recreation with Baby," "Study of Child Nature," "Choosing a Cow," etc.

— Archibald Constable & Co. have in the press and will publish shortly an authorized translation of "Antagonismus der englischen und russischen Interessen in Asien," with a map embodying the latest information.

— In the *Overland Monthly* for August, in an interesting article, entitled "The Economic Introduction of the Kangaroo in America," Robert C. Auld suggests, to take the place of the defunct buffalo, the introduction of the kangaroo from Australia, it being valuable as providing "flesh, fur, and footwear." He finds that the kangaroo "(1) Is easily domesticated; (2) breeds readily in captivity; (3) is easily maintained; (4) has excellent and abundant flesh of a very edible kind; (5) is valuable as a fur-producer; (6) makes excellent sport when at large; (7) can be bred and reared on an extensive, inexpensive scale, by simply fencing in a tract of country not suitable for other stock; (8) becomes easily and thoroughly acclimated, and is quite hardy; (9) and can be procured very easily and cheaply."

#### Publications Received at Editor's Office.

- BEAL, W. J., AND WHEELER, C. F. Michigan Flora. Agricultural College, Mich. 8°. Paper. 180 p.  
CONNECTICUT. Fourteenth Annual Report of the State Board of Health. New Haven The State. 8°. 240 p.  
FOWLER, N. C., JR., AND OTHERS. Home Warming and Ventilation. Geneva, N. Y., Herendeen Mfg. Co. 12°. Paper. 64 p.  
GANYMEDE. Problems in Physics and their Application to Dynamic Meteorology. Published by the Author. 8°. Paper. 48 p.  
MACOUN, JOHN. Catalogue of Canadian Plants. Part VI. Musci, Montreal, Government. 8°. Paper. 295 p.  
WILLISTON, S. W., AND OTHERS. Report on the Examination of Certain Connecticut Water Supplies. 8°. Paper. 439 p.

#### Reading Matter Notices.

- Ripans Tabules cure hives.  
Ripans Tabules cure dyspepsia.

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For information address Mr. FRITZ RUHL, President of the Societas Entomologica, Zurich-Hottingen, Switzerland.

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For exchange.—A fine thirteen-keyed flute in leather covered case, for a photograph camera suitable for making lantern slides. Flute cost \$27, and is nearly new. U. O. COX, Mankato, Minn.

To exchange; Experiment Station bulletins and reports for bulletins and reports not in my file. I will send list of what I have for exchange. P. H. ROLFS, Lake City, Florida.

Finished specimens of all colors of Vermont marble for fine fossils or crystals. Will be given only for valuable specimens because of the cost of polishing. GEO. W. PERRY, State Geologist, Rutland, Vt.

For exchange.—Three copies of "American State Papers Bearing on Sunday Legislation," 1891, \$2.50, new and unused, for "The Sabbath," by A. A. Phelps, 1842; "History of the Institution of the Sabbath Day, Its Uses and Abuses," by W. L. Fisher, 1859; "Humorous Phases of the Law," by Irving Browne; or other works amounting to value of books exchanged, on the question of governmental legislation and religion, personal liberty, etc. I prefer, I will send "American State Papers," and buy other books on the subject. WILLIAM ADDISON BLAKELY, Chicago, Ill.

For Sale or Exchange for books a complete private chemical laboratory outfit. Includes large Becker balance (200g to 1-10mg), platinum dishes and crucibles, agate mortars, glass-blowing apparatus, etc. For sale in part or whole. Also complete file of *Silliman's Journal*, 1862-1885 (62-71 bound); Smithsonian Reports, 1854-1883; U. S. Coast Survey, 1854-1869. Full particulars to enquirers. F. GARDINER, JR., Pomfret, Conn.

Wanted, in exchange for the following works, any standard works on Surgery and on Diseases of Children: Wilson's "American Ornithology," 3 vols.; Coues' "Birds of the Northwest" and "Birds of the Colorado Valley," 2 vols.; Minot's "Land and Game Birds of New England"; Samuels' "Our Northern and Eastern Birds," all the Reports on the Birds of the Pacific R. R. Survey, bound in 2 vols., Morocco; and a complete set of the Reports of the Arkansas Geological Survey. Please give editions and dates in corresponding. R. ELLSWORTH CALL, High School, Des Moines, Iowa.

To exchange Wright's "Ice Age in North America" and Le Conte's "Elements of Geology" (Copyright 1882) for "Darwinism," by A. R. Wallace, "Origin of Species," by Darwin, "Descent of Man," by Darwin, "Man's Place in Nature," Huxley, "Mental Evolution in Animals," by Romanes, "Pre-Adamites," by Winchell. No books wanted except latest editions, and books in good condition. C. S. Brown, Jr., Vanderbilt University, Nashville, Tenn.

#### Wants.

Any person seeking a position for which he is qualified by his scientific attainments, or any person seeking some one to fill a position of this character, be it that of a teacher of science, chemist, draughtsman, or what not, may have the "Want" inserted under this head FREE OF COST, if he satisfies the publisher of the suitable character of his application. Any person seeking information on any scientific question, the address of any scientific man, or who can in any way use this column for a purpose consonant with the nature of the paper, is cordially invited to do so.

A JOHNS HOPKINS graduate (1892) desires a position as instructor in mathematics and physics. Address: A. B. TURNER, Johns Hopkins University, Baltimore, Md.

WANTED.—A collection of postage stamps; one made previous to 1870 preferred. Also old and curious stamps on original letters, and old entire U. S. stamped envelopes. Will pay cash or give in exchange first-class fossils, including fine crinoids. WM. F. E. GURLEY, Danville, Ill.

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WANTED.—We want any and all of the following, providing we can take other books and magazines or buy them cheap for cash: Academy, London, vol. 1 to 28, 35, Jan. and Feb., '89; Age of Steel, vol. 1 to 66; American Antiquarian, vol. 1, 2; American Architect, vol. 1 to 6, 9; American Art Review, vol. 3; American Field, vol. 1 to 21; American Geologist, vol. 1 to 6; American Machinist, vol. 1 to 4; Art Amateur, vol. 1 to 7, Oct., '14; Art Interchange, vol. 1 to 9; Art Union, vol. 1 to 4, Jan., '44, July, '45; Bibliotheca Sacra, vol. 1 to 46; Godey's Lady's Book, vol. 1 to 20; New Englander, vol. 11; Zoologist, Series 1 and 1, Series 3 vol. 1 to 14; Allen Armeudale (a novel). Raymer's "Old Book" Store, 243 4th Ave. S., Minneapolis, Minn.

WANTED.—By a young man, a Swarthmore College junior, a position as principal of a public high school in one of the Gulf States, or as instructor in botany, physiology, and geology in an academy or normal school. Address B., care of Librarian, Swarthmore College, Penn.

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TRANSLATOR wanted to read German architectural works at sight (no writing). One familiar with technical terms desired. Address "A," Box 143, New York Post Office.

—D. Van Nostrand Company will publish in the fall in their Science Series "A French Method of Obtaining Slide-Valve Diagrams," by Lloyd Banston, Ass't Naval Constructor, U. S. Navy, and "A Graphical Method for Swing Bridges," by B. F. La Rue.

—Professors W. J. Beal and C. F. Wheeler have prepared for the thirteenth annual report of the State Board of Agriculture of Michigan a catalogue of plants of the State. It contains 180 pages, and is much more than a mere list. In the 114 orders represented, these including the phanerogams and vascular cryptogams, there are 554 genera and 1746 species and varieties. A map showing the provisional districts into which the State is divided is prefixed to the catalogue. The distribution of each plant is mentioned, and remarks are made upon many species. It is only possible to refer to some of the numerous topics touched upon in the introductory remarks. Among them we find a general description of the topography of the State, with lists of the plants characteristic of the ten districts, lists of the plants occurring in

the "Jack-pine plains," the prairies, and in the eastern and western sides of the State in the latitude of 44° 40'. There are also valuable hints in regard to the trees best adapted for planting about the home and along the roadside; planting a wild garden; trees and shrubs noted for the color of their foliage in autumn; native climbing plants; plants indicating a fertile soil; trees valuable for timber; native and introduced weeds; rare or local plants; medicinal plants, etc. Not the least interesting topic is that relating to wild fruits and nuts, the remarks of Dr. Asa Gray made in 1873 being quoted. He speculated upon what the results would have been if our civilization had had its origin in North America instead of the Old World. Apples would have developed from the wild crab; plums from several wild species; the persimmon, the paw paw, the ground nut, hickory nut, and walnut would hold the places now filled by others; and perhaps 2,000 or 3,000 years hence some of these will have taken a front rank among the edible fruits of the then existing races of men.

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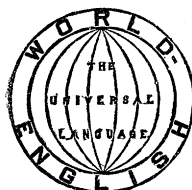
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