Then a segment half way to Uranus was torn away entirely around the ball, and the rupture took place along the chord of the arc. A section of this ring would be flat inside and curved outside; else a ring lifted out of the equator quite around the sphere, whose sections were circular, leaving concave walls of gas in north and south latitude. Neptune would condense somewhere on a line in the centre of gravity of the ring. In either case the orbit of the first world would be *nearer* the sun than now. It could not have been thrown off the surface, as there was not material enough; nor from the edge of the lens-shaped mass, nor from beneath the surface of the sphere, for from either place the orbit would not be where it is. It could not have been cast off at all. EDGAR L. LARKIN.

NEW WINDSOR OBS., *May 11th*, 1881.

BOOKS RECEIVED.

THE HUMAN BODY.—An Account of its Structure and Activities and the Conditions of its Healthy Working. By H. NEWELL MARTIN, D.Sc., M.A., M.B. Henry Holt and Company, 1881.

This book is the fourth of the "*American Science Series*" of manuals prepared under the direction of Messrs. Holt and company, and will be found of equal value, as a popular guide to the subject treated, to the three works which preceded it. It is a reliable work, being compiled from the best authorities, and is not intended for specialists, but for general readers and students.

In an age when the Physician is called upon to explain to his patient, the *raisen d'etre* of the treatment suggested, and even to describe the peculiar condition of the organs affected, some knowledge of Human Anatomy and Physiology appears essential to those who desire to act as consulting physician in their own cases.

To meet such a demand for a popular work on the human body, Dr. Martin has prepared the present volume, which is free from technicalities, or scientific terms requiring interpretation. The reader has the advantage of one hundred and sixty-five excellent illustrations, and as Dr. Martin's style of writing is both clear and comprehensive, the task of the reader is an easy one.

The earlier works of this series have been reviewed in "SCIENCE" and comprise the following manuals: *Astronomy*, by Professors Simon Newcomb and Edward S. Holden: *Botany*, by Professor C. E. Bessey: *Zoology*, by Professor A. S. Packard, Jr.

OSTEOLOGY OF SPEOTYTO CUNICULARIA Var. Hypogæa, and of Eremophila alpestris, by R. W. SCHUFELDT, U. S. A.—Extracted from the Bulletin of the U. S. Geological and Geographical Survey—Washington, Feb. 11th, 1881.—Four full page illustrations.

ABSTRACT OF TRANSACTIONS of the Anthropological Society of Washington, D.C., with the annual report of the President.—For the year ending Jan. 20, 1880, and for the second year ending January 18th. 1881. Prepared by J. W. POWELL.—Washington, 1881.

THE TWELFTH ANNUAL REPORT of the American Museum of Natural History—Central Park, New York City—Dated February 15th, 1881.

REPORT of the Cruise of the U. S. Revenue Steamer *Corwin* in the Arctic Ocean, by Capt. C. L. HOOPER, U. S. R. M,—November 1, 1880—Washington, 1881.

REPORT of the Director of the Detroit Observatory of the University of Michigan—October 1, 1879, to January 1, 1881, Ann Arbor, Michigan, 1881.

ABSTRACT of some Paleontological Studies of the Life History of Spirifer lævis H. by, Professor H. S. WILLIAMS of Cornell University, Ithaca, N. Y.—Reprinted for American Journal Science.

OBSERVATIONS on Jupiter by L. TROUVELOT—Presented March 9th, 1881.—Reprinted from the proceedings of the American Academy of Arts and Sciences.

PROCEEDINGS of the U. S. National Museum, 1881. Check List of Duplicates of Fishes from the Pacific coast of North America (221 Species) distributed by the Smithsonian Institution in behalf of the United States National Museum.—Prepared by DAVID S. JORDAN and PIERRE L. JOUY.—April 13, 1881.

DESCRIPTION of a new species of Squalius (Squalius aliciæ from Utah Lake, by PIERRE LOUIS JOUY.

DESCRIPTION of a new Gobioid Fish (Othonops eos) from San Diego, Cal. by ROSA SMITH.

ON a Duck new to the North American Fauna, by ROBERT RIDGWAY.

ON Amazilia yucatanensis (Cabot) and A. cerviniventris, Gould, by ROBERT RIDGWAY.

DESCRIPTIONS of new species of Fishes (Uranidea marginata, Potamocottus Bendirei) and of Myctophum crenulare, J. and G.—by TARLETON H. BEAN.

NOTES on the Fishes of the Pacific Coast of the United States by DAVID S. JORDAN and CHARLES H. GILBERT.

In this paper descriptions are given of 109 species of fishes known to occur along our Pacific Coast between the Mexican boundary and that of British Columbia, with notes on the distribution, habits, size, value, etc., of each species, in advance of the publication of a general descriptive work.

AMERICAN KINDERGARTEN MAGAZINE.—Edited by Emily M. Coe, Bible House, New York.

We have pleasure in recognizing the sterling merit of this excellent little Monthly, a leading feature of which appears to be an attempt to popularize science in a form suitable for children. The present number contains articles introducing the young readers to the best methods of classification of the Animal Kingdom. The journal is in its third volume, and is sold for one dollar a year.

NEW APPLICATION OF THE SUB-PRODUCTS OF COAL-TAR.—Mr. Sanders, of St. Petersburg, has succeeded in producing from the heavy oils of coal-tar, a new substance which, in many cases, takes the place of india-rubber with advantage. It is prepared in the following manner. A given weight of a mixture in equal parts of wood-oil and coal-tar oil, or of coal-tar and hemp-oil, is heated for several hours, at a temperature of about 318° Fahr., so as to disengage the injurious substances and increase the viscosity of the mass, until it may be drawn out in threads. A second quantity, equal to the former, of linseed-oil, preferably thickened by boiling, is now added, and also from one-twentieth to one-tenth per cent. of ozocerite with a little spermaceti. In the meanwhile, the mass is kept at a uniformly high temperature for some hours, when from one-fifth to one-half part of sulphur per cent. is added, after which the product is moulded or otherwise worked in the same manner as india-rubber. The proportions of the three oils named above may be varied so as to obtain a harder or more elastic substance, as may be required. The product is elastic and tenacious, standing the weather better than india-rubber, and is not deteriorated by great pressure or a high temperature. It is said to be specially suitable for the insulation of telegraph wires, and may be employed alone or mixed with india-rubber or similar resinous substances.

ELECTROLYSIS.—Mr. E. F. Smith finds that a black hydrated oxide, $Ur_3 O_4$, is precipitated when a galvanic current is passed through a solution of uranium acetate, formate, or nitrate.