lurgy in the Kasai'; (*b*) 'The Pygmies and the Anthropoid Apes'; (*c*) 'Phallic Influence in Bantu Art and Mythology.'

COL. PAUL BECKWITH: 'The French-Egyptian Medal in Commemoration of the Savants who accompanied General Bonaparte into Egypt.'

DR. ALTON H. THOMPSON: 'The Ethnology of the Teeth.'

DR. CYRUS THOMAS: 'Some Suggestions in regard to Primary Indian Migrations in North America.'

DR. SAMUEL S. LAWS: (*a*) 'The Physiology of Second Sight'; (*b*) 'A Main Factor in remedying Deafness'; (*c*) 'The True Object of Vision.'

GEORGE GRANT MACCURDY,
Secretary

YALE UNIVERSITY

SCIENTIFIC BOOKS

The Evolution of Culture and Other Essays. By the late Lt.-Gen. A. LANE FOX PITT-RIVERS, D.C.L., F.R.S., F.S.A. Edited by J. L. MYRES, M.A., Student in Christ Church, Oxford; with an introduction by HENRY BALFOUR, M.A., Fellow of Exeter College, Oxford, Curator of the Pitt-Rivers Museum. Oxford, Clarendon Press. 1906. Pp. 232; 21 pls. 8vo. 7s 6d net.

Here you have together, in attractive form, the principal writings of one of the pioneers in culture-history, or the story of mankind recorded in the works of their hands. The volume includes: Principles of Classification (1874), On the Evolution of Culture (1875), Primitive Warfare (1867, 1868, 1869), three chapters, Early Modes of Navigation.

Two loving disciples have prepared the volume and written the introduction. Precise references have been identified and given in full, and obvious errors in the text have been either amended or corrected in a foot-note. The volume was prepared to supply the needs of candidates for the Oxford diploma in anthropology and of the numerous visitors to the Pitt-Rivers Museum, in Oxford; but every student of culture will feel happier with a copy at hand.

Colonel Fox's text was that in the arts and customs of the still living savage and barbaric peoples there are reflected to a considerable extent the various strata of human culture in the past, and that it is possible to reconstruct in some degree the life and industries of man in prehistoric times by a study of existing races in corresponding stages of civilization. Professor Balfour wisely says: "The fact of our not agreeing with all his details in no way invalidates the general principles which he urged." In all our best museums the exhibits that attract the most people and interest those in every walk of life are the synoptic series, easily leading the mind from a shadow in the snow to the chronometer; from a bow and arrow to the latest carbine; from Triton's horn to the cornet; from a woman's back to the express train; from a raft to the gorgeous ocean steamer. O. T. M.

March 30, 1907

Organische Zweckmässigkeit, Entwicklung und Vererbung vom Standpunkt der Physiologie. Von Dr. PAUL JENSEN, Professor an der Universität Breslau. Pp. 251. Jena, G. Fischer.

Dr. Jensen has attempted to state some of the general and fundamental problems of biology — adaptiveness, heredity, evolution, variation, selection, and the like—from a purely physiological standpoint, and to indicate the lines along which physiology would lead us to look for a solution. The result will be found most interesting and suggestive to those working along these lines. The processes taking place in development, individual as well as racial, are occurring in the same complex of material as are the processes of (for example) metabolism. They are as much a part of a proper science of physiology as are the latter. Further, there seems to be no reason why physiology should proceed on essentially different principles in different cases in the investigation of the various processes with which it deals. This consideration leads the author to a criticism of certain theories which do appear to be based on principles fundamentally different from those which have been found valuable in unravelling the processes commonly assigned to physiology. On the one hand all doctrines which attribute the characteristics of organisms, hereditary and otherwise, to certain

units, as *ids, biophors, micellæ,* and the like, are arraigned as not in accordance with the tendency of modern physical chemistry, which physiology has found so illuminating in its application to the organic processes. Many of the modern ideas of chromosome significance are included in this criticism, which is certainly one that deserves careful consideration. On the other hand such vitalistic doctrines as that of Driesch's entelechy are set forth as equally out of the line of progress. Dr. Jensen is a man of broad reading, of judicial mind, and one that has long been known as an investigator in general physiology. To the reviewer his views seem unusually just and well balanced, so that the paper is one to be highly recommended.

In the latter parts of the work Jensen develops a general theory of development, based largely on various manifestations of the selection principle, working on the materials offered by the physico-chemical universe. In such matters tastes will of course differ; to the reviewer it appears that this, like the critical part of the work, is judicious and valuable.

The present paper is preliminary to an extensive work dealing with general physiology. If the whole is maintained at the high level shown in the preliminary part, its appearance may be looked for with great interest.

H. S. Jennings

SOCIETIES AND ACADEMIES

THE NATIONAL ACADEMY OF SCIENCES

At the meeting of the National Academy of Sciences beginning on April 16, the following papers were presented:

W. T. Swingle and Lyman J. Briggs (introduced by C. Hart Merriam): 'Utilization of Ultra-violet Rays in Microscopy,' and demonstration of the apparatus employed (with lantern illustrations).

Karl F. Kellerman (introduced by Theo. Gill): 'On the Purification of the Isthmian Potable Water Supply' (with lantern illustrations).

J. W. Gidley (introduced by C. D. Walcott): 'A New Horned Rodent from the Miocene of Kansas' (with lantern illustrations).

F. H. Knowlton (introduced by Arnold Hague): 'The Laramie Problem.'

David White (introduced by W. H. Dall): 'Permo-Carboniferous Climatic Changes in South America.'

F. W. True (introduced by W. H. Dall): 'On the Occurrence of European Genera of Fossil Cetacea in America.' (By title.)

J. M. Crafts: 'A New and More Accurate Form of Normal Barometer.'

J. M. Crafts: 'The Catalysis of Sulphonic Acids in Concentrated Solutions.'

F. H. Bigelow (introduced by Cleveland Abbe): 'A Solution of the Vortices in the Atmospheres of the Earth and the Sun' (with lantern illustrations).

L. A. Bauer (introduced by S. Newcomb): 'Results thus far obtained by the Oceanic Magnetic Survey of the Carnegie Institution of Washington, and their Bearing' (with lantern illustrations).

Richard B. Moore (introduced by Arnold Hague): 'The Relation of Radium to Hot Spring and Geyser Action' (with lantern illustrations).

Henry F. Osborn: 'Exploration in the Upper Eocene of the Fayoum Desert' (with lantern illustrations). (By title.)

Lewis Boss: 'Remarks on the Solar Motion' (with lantern illustrations).

Horace L. Wells: 'Biographical Memoir of Samuel L. Penfield.' (By title.)

A. L. Day (introduced by Geo. F. Becker): 'Some New Measurements with the Gas Thermometer.'

Simon Newcomb: 'On the Optical Principles involved in the Interpretation of the Canals of Mars.'

Simon Newcomb: 'Methods of Detecting Correlations between the Variations of Fluctuating Quantities, with an Application to the Question of the Variability of the Sun's Radiation.'

W. W. Campbell: 'The D. D. Mills Expedition to the Southern Hemisphere' (with lantern illustrations).

C. D. Perrine (introduced by W. W. Campbell): 'Results of the Intramercurial Planet Search.'

Alexander Agassiz 'The Eggs of Flying Fishes.' (By title.)

Alexander Agassiz: 'The Elevated Reefs of the Windward Islands.' (By title.)

E. W. Hilgard: 'Biographical Memoir of Joseph Le Conte.' (By title.)

Bailey Willis (introduced by Arnold Hague): 'Continental Structure of Asia.'

Wirt Tassin (introduced by W. H. Dall):