# SCIENCE

A WEEKLY JOURNAL DEVOTED TO THE ADVANCEMENT OF SCIENCE, PUBLISHING THE OFFICIAL NOTICES AND PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.



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MSS. intended for publication and books, etc., intended or review should be sent to the responsible editor, Professor J. McKeen Cattell Garrison-on-Hudson, N. Y.

## *PHYSICAL HISTORY OF THE ROCKY MOUNTAIN REGION IN CANADA.**

IT will now be endeavored to briefly review the orographic changes and the conditions of deposition of which the geological column gives evidence—in other words, to touch in outline the main facts of the physical history of the Rocky Mountain region of Canada.

Regarding the Archean, it need only be said that here, as in most parts of the world, we find, beneath any rocks that can be assigned to the Cambrian in the most extended sense of that term, and apparently separated from these rocks, by a great break and unconformity, a crystalline series or 'fundamental complex' composed of plutonic rocks with highly metamorphosed and vanishing sedimentary rocks in seemingly inextricable association. The similarity of this basal series in different parts of the world is so great as apparently to imply world-wide and approximately contemporaneous conditions, of a kind perhaps differing from any that can have occurred at later periods. The region here described is not, however, an ideal one for the study of these Archean rocks, because of the extreme metamorphism by which much newer formations

* Concluding section of the address of the President of the Geological Society of America, the late Dr. George M. Dawson, read before the Society on December 29, 1900.

ada was instituted, to the present time. The price of the above is fifty cents. Copies may be obtained from the Librarian of the Geological Survey. H. M. AMI.

THE CROTONS OF THE UNITED STATES.*

THE United States species of *Croton*, as represented in the principal herbaria of the country, have been monographed by A. M. Ferguson, formerly connected with the Missouri Botanical Garden, now at the University of Texas, whose paper, accompanied by ample analytic keys, and illustrations of all but the most commonly figured species, forms a rather thick octavo paper to constitute a part of the forthcoming 'Twelfth Annual Report of the Missouri Botanical Garden,' where the work was done. In addition to keys and synoptical headings, a citation of necessary synonymy and specimens examined, combined with short but clear descriptions, appears to ensure the easy understanding of the species of a genus that has always afforded a fair number of puzzles to the botanist.

PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE Proceedings of the 49th meeting of the American Association for the Advancement of Science, edited and published by the permanent secretary, L. O. Howard, make a handsome volume of 500 pages. The volume has as a frontispiece a portrait of the late Edward Orton, who, it will be remembered, died before he was able to give the address of the retiring president at the New York meeting. The volume contains as usual the lists of past officers, the constitution of the Association and lists of members and fellows. There then follow the address of the president, Mr. Grove Karl Gilbert, of the U. S. Geological Survey, and the proceedings of the separate sections, including the addresses of the vice-presidents. The volume concludes with the reports of the secretaries and of the treasurer. It is gratifying to note that the membership at the time of the New York meeting was 1,921, as compared with 1,695 the year before. One rather unexpected result of the change in the time of the meeting from August to June has been a delay in the publication of the volume. Immediately after the adjournment of the meeting the members separated widely for their summer vacations; those who did not go to Europe went into the field, and the secretaries of sections were among them. As a result it was impossible for the permanent secretary to get together the manuscript for a large part of the volume until after the return of the secretaries of sections and other members to their homes in the autumn. The volume was all in print, however, by December and would have been distributed before January 1st except for an accident in the bindery which again delayed the general distribution.

* Ferguson, A. M. 'Crotons of the United States.' (Printed in advance from the Twelfth Annual Report of the Missouri Botanical Garden.) Issued February 16, 1901. Pp. 41, pl. 28.

BOOKS RECEIVED.

*Proceedings of the American Association for the Advancement of Science, Forty-Ninth Meeting, held at New York, N. Y., June, 1900.* L. O. HOWARD. Easton, Pa., The Chemical Publishing Company. 1900. Pp. 409.

*Lecithoblast und Angioblast der Wirbelthiere.* WILHELM HIS. Leipzig, B. G. Teubner. 1900. Vol. IV. Pp. 328.

*L'Année biologique.* YVES DELAGE. Paris, Schleicher Frères. 1900. Pp. xxxi + 847.

*Report of the Census of Porto Rico for 1899.* LIEUT.-COL. J. P. SANGER. Washington Government Printing Office. 1900. Pp. 417.

*Electric Lighting.* FRANCIS B. CROCKER. New York, D. Van Nostrand Company; London, E. & F. N. Spon. 1901. Vol. II. Pp. vi + 505. $3.00.

*Anatomy of the Cat.* JACOB REIGHARD and H. S. JENNINGS. New York, Henry Holt & Company. 1901. Pp. xx + 498.

SCIENTIFIC JOURNALS AND ARTICLES.

*The Journal of the Boston Society of Medical Sciences* for January 15th contains 'Notes on the Occurrence of *Anopheles Punctipennis* and *A. Quadrimaculatus* in the Boston Suburbs' by Theobald Smith, 'Notes on Anopheles' by Charles S. Minot, and 'Notes on Mosquitoes' by F. P. Gorham. E. R. Le Count presents a 'Report on the Histologic Changes found in the Tissues of Animals Inoculated with Diplococcus Scarlatinæ (Class),' stating that they differ from those noted in man by Pearce in

degree rather than character. A paper of very general interest is that on the 'Action of the Larynx in Relation to the Pitch of the Voice' by Thomas Fillebrowne showing that the larynx should *not* rise with the pitch if one wishes to retain the vocal powers. There are a series of abstracts of papers presented at the Indianapolis meeting of the Public Health Association as follows: 'Observations on Methods for the Detection of *B. coli communis* in Water' by E. E. Irons, 'Variation of the Properties of the Colon Bacillus, Isolated from Man' by W. W. Ford, 'Thermal Death Point of the Tubercle Bacillus and its Relation to the Pasteurization of Milk,' by H. L. Russel and E. G. Hastings, 'A Note on the Disinfectant and Deodorant Properties of Ammonium Persulphide,' by M. P. Ravenel and S. H. Gilliland, and 'An Inquiry into the Rôle of the Domestic Animals in the Causation of Typhoid Fever,' by W. R. Stokes and John S. Fulton.

In *The Popular Science Monthly* for March Simon Newcomb continues his 'Chapters on the Stars' this instalment being devoted to statistical studies of proper motions, concluding that, so far as we can judge, our own system is near the center of the stellar universe. R. H. Thurston considers 'The Law of Substance,' substance being what we are familiar with as 'matter.' Dudley Allen Sargent discusses 'The Height and Weight of the Cuban Teachers' who were in Cambridge last summer, showing that in these points they fall below the average of our own teachers. The reasons for this and the remedy are suggested. Hudson Maxim treats of 'Throwing a High Explosive from Powder Guns' considering that this problem and that of firing high explosives through armor plate have been successfully solved. Harold W. Fairbanks describes 'Pyramid Lake, Nevada' and its curious tufaceous formations, and William H. Hobbs deals with 'The Geologist Awheel' believing that topographical work may be greatly expedited by the use of the bicycle. 'The Formation of Habits in the Turtle' by Robert Mearns Yerkes, describes a series of experiments showing how a turtle learned, or acquired, the shortest route around a number of obstacles to its nest. In 'The Science of Distances,' being the address of the President of the Geographical Section of the British Association, George S. Robertson shows how steam and electricity have shortened the time between distant places and hints at what may be hoped for in the future. Finally Havelock Ellis continues 'A Study of British Genius,' this instalment being devoted to a consideration of the influence of birth and race. Perhaps the most interesting of the brief articles are those discussing the relations between the Government and science.

## *SOCIETIES AND ACADEMIES.*

### GEOLOGICAL SOCIETY OF WASHINGTON.

The 110th meeting was held at the Cosmos Club, February 13, 1901. The following papers were presented:

*Age of the Coals at Tipton, Blair County, Pennsylvania:* Mr. David White.

It was shown that the coals occur in a down-faulted block of coal measure beds surrounded by Pocous strata.

*Production of the B. & M. Plant at Great Falls, Montana:* Mr. R. H. Chapman.

A view of the reduction works was shown and specimens of the copper products exhibited.

*Notes on Two Desert Mines in Southern Nevada and Utah:* Mr. S. F. Emmons.

The Delamar mine is situated on the western slopes of the Meadow Valley Range in southeastern Nevada. Its ore-body occurs in a heavy series of quartzite beds of Cambrian age, that strike in a northwesterly direction and dip 23° southeast. The so-called vein is a fracture plane whose strike varies but slightly from that of the enclosing quartzite, but its dip is 70° to 80° to the northwest, or nearly at right angles to the strata. It neither has vein-filling, nor is it mineralized to any considerable extent, but has zones or chimneys of crushed quartzite along it that have been mineralized and carry the ore values. Two granite-porphyry dikes about 30 to 40 feet in width run nearly at right angles to the main fracture, and are crossed by a narrow dike 6 to 10 feet wide of basic lamprophyric rock, so decomposed that its mineral composi-