
Recent Proceedings of Societies.

Academy of natural sciences, Philadelphia.

Sept. 14. — Miss Helen D. Abbott read a paper on chemical constituents of plants with relation to their organic forms. Plants containing saponine, vegetable waxes, and camphors had been examined with a view to supporting the theory advanced, but those only containing saponine were the subject of the communication to the society. Heckel's tables, illustrating the evolution of plants, were used to indicate the relationship of those under consideration, and it was found that the species containing saponine belongs to his middle plane. The compound referred to is always a constructive and formative element of the plant containing it, while its action on other elements probably contributes to the nutrition of the species. It is absent where the floral elements are simple, and it decreases as the plants approach their fullest development, being found in the largest degree in the intermediate groups. Other substances are dominant in plants with flowers simpler or more complex than those in the saponine group. The investigation, as far as it has been carried, indicates that a similarity of one or more chemical constituents is to be found in all plants which are equally developed and on the same evolutionary plane. The evolution of chemical constituents is in parallel lines with the evolutionary course of plant-forms, the one being intimately connected with the other; and consequently chemical constituents are indicative of the height of the scale of progression, and are essentially fit for a basis of botanical classification: in other words, the theory of evolution in plant-life is best illustrated by the chemical constituents of vegetable forms. Attention was also called by Miss Abbott to two new substances obtained by her from a Honduras plant which had not yet been botanically determined, one of which was a camphor. A new dye, chichipatin, was also described. — Dr. D. G. Brinton called attention to a discovery recently made in the cavern of Spy, near Namur, Belgium, of two human skeletons associated with rough stone implements characteristic of a period near the middle of the stone age. The skulls were related to those of Neanderthal and the cavern of La Naulette, and distinctly suggested a simian relationship. — Professor Heilprin exhibited the tooth of a mammoth from a point in Florida farther south than any as yet associated with that animal. — Dr. Leidy remarked that the mammoth was undoubtedly at one time distributed over the entire extent of North America, from the arctic region, through Mexico, and into Central America. — As an illustration of the occasional longevity, under favorable circumstances, of species which are supposed to be short-lived, the Rev. Dr. McCook stated that a specimen of *Tarantula*, which was probably a year old when it came into his possession in 1882, was recently found to be alive and well, although now perhaps six years old. It had been supplied with water constantly, but it had not received food from October last until June of the present year. In this connection, reference was made to the queen of Sir John Lubbock's colony of ants. In 1882 it had reached the age of seven years, and was, he believed, still alive. — Dr. Leidy exhibited a series of negatives of instantaneous photographs of lions in motion, by Muybridge. He had been struck with the fact

that the animals are represented as being spotted, distinctly in the male, less so in the female, although such spots could not be seen on the animals themselves, without, at all events, very close observation. He had been informed that photography frequently revealed characters which could not be detected by the eye.

June 21. — Dr. Nolan read an interesting communication recently received from Miss Adele M. Fielde, giving an account of the practice of spiritism by the women of Swatow, China. In the eighth month of the year they meet privately, and fall into trances. Nearly all the native women are interested in these secret sessions; but many are prevented from being present by necessary occupations elsewhere, or by fear of rebuke from the men of their households. These conclaves are entered by women alone, and are regarded by men with great disfavor. From three to a dozen or more women gather around a table in the centre of a room where they can be secure from interruption. Incense-sticks, spirit-money, and bamboo-roots, bought by a previous contribution of farthings, are distributed among all present. A fetish of some sort, a decayed splint hat, an old broom, a chopstick, or possibly a more uncleanly object, taken from a rubbish heap, is brought in, and spirit-money is burned before it, with obeisances. Then those who desire to fall into trance sit down at the table, throw a black cloth over the head, hold a sheet of spirit-money and a lighted incense-stick between the palms before the face, shut the eyes, and remain motionless and silent. Of the other women, some light incense-sticks and whirl them around the heads of the sitters; some rap constantly, gently and rapidly, with the bamboo-roots on the edge of the table; some chant invocations, petitioning the gods to admit these their children to their abode. Many and diverse incantations are iterated. Two or three of the women, perhaps, fall into trance. Their doing so is indicated by their trembling violently, dropping the incense-sticks they were holding, beginning to beat the table with the palms of their hands and to discourse incoherently. They speak of meeting their own lost friends, or those of other women who are present. They weep bitterly while they appear to converse with the dead. They describe streets, shops, and houses, and say that certain persons are engaged in agriculture or trade. Sometimes they, by request, make inquiry concerning the whereabouts of a dead person, and then give the information that he has been born into the human family for the second time. Sometimes they report that a dead neighbor is shut up in Hades, with nothing to eat but the salted flesh of the infant daughters she destroyed when she was alive. As no pecuniary benefit accrues, directly or indirectly, to the actors in these scenes, there is less reason for suspecting conscious deception than in the case of the public interpreters of the gods. Throughout the whole, however, there is an indication that the minds of the women are, during these trances, moving in customary grooves. They evidently see what they expect to see. They bring back no ideas save those which they took with them when starting on their quest; and this leads one to doubt, in spite of their dishevelled hair, pallor, and exhaustion, whether they have, after all, really been away from home. — Mr. Charles Morris called the attention of the academy to the rapid increase of poison ivy in Fairmount park, especially in the more frequented sections and

in the places much resorted to by children. A few weeks ago a friend who was entirely familiar with the plant was seriously poisoned, in spite of all his precautions to avoid it. The speaker urged the necessity of the park commissioners taking active means of eradicating the pest. This could probably only be done by rooting up the plants wherever they appear. It might be well to plant in their place the Virginia creeper, itself a vigorous and persistent species.—The death of Mr. William P. Jenks was announced. He was a member of the Board of trustees of the building fund. He was not only a liberal contributor to the fund, but was also one of the most active in soliciting subscriptions thereto while the present building was in process of erection.

Calendar of Societies.

Brookville society of natural history, Brookville, Ind.

Sept. 4. — O. M. Meyncke, Orchids; A. W. Butler, Buffalo meeting of the American association for the advancement of science; R. M. King, The scientific works of Baron Cuvier; J. F. McKee, Some so-called insectivorous birds.

Publications received at Editor's Office, Sept. 13-25.

Benjamin, P. The age of electricity from amber-soul to telephone. New York, Scribner, 1886. 8+381 p., illustr. 12° \$2.

Clarke, F. W., and others. Work done in the division of chemistry and physics in 1884-85. (U. S. geol. surv., bull. No. 27.) Washington, Government, 1886. 80 p. 8°.

Crehore, J. D. Mechanics of the girder: a treatise on bridges and roofs. New York, Wiley, 1886. 14+575 p., illustr. 8° \$5.

Crowninshield, F. Mural painting. Boston, Ticknor, 1887. 155 p., 13 pl. illustr. 12° \$3.

Crowell, 1886. 16+373 p. 12° \$1.50.

Hartshorne, H. 1931: a glance at the twentieth century. Philadelphia, Claxton, 1887. 64 p. 24°.

Morse, E. S. Ancient and modern methods of arrow-release. Salem, Bull. Essex Inst., [1886.] 56 p., illustr. 8°.

Smith, S. I. Report on the decapod crustacea of the Albatross dredgings of the east coast of the United States during the summer and autumn of 1884. Washington, Government, 1886. 101 p., 20 pl. 8°.

Todd, D. P. First quinquennial report of the director of Amherst college observatory, 1881-85. Amherst, Mass., The Author, [1886.] [6] p. 8°.

U. S. geological survey, topographical maps of portions of Virginia, North Carolina, Tennessee, Nevada, and California. 42 by 50.5 cm. Washington, Government, 1886.

Wachsmuth, C., and Springer, F. Revision of the Palaeocrinoidea. Part III.: Discussion of the classification and relations of the brachiata crinoids, and conclusion of the generic descriptions. (Proc. Acad. nat. sc., March 30, 1886.) Philadelphia, W. P. Kildare, Jr., 1886. [195] p. 8°.

White, C. A. Fresh-water invertebrates of the North American Jurassic. (U. S. geol. surv., bull. No. 29.) Washington, Government, 1886. 41 p., 4 pl. 8°.

Williams, E. H., jun. A manual of lithology. New York, Wiley, 1886. 8+135 p. 24° \$1.25.

Advertised Books of Reference.

LIPPINCOTT'S BIOGRAPHICAL DICTIONARY. A new, thoroughly revised, and greatly enlarged edition. A universal pronouncing dictionary of biography and mythology. Containing complete and concise biographical sketches of the eminent persons of all ages and countries. By J. Thomas, M.D., LL.D. Imperial 8vo. 2550 pages. Sheep. \$12.00. J. B. Lippincott Company, Pubs., Philadelphia.

WILSON.—AMERICAN ORNITHOLOGY; or, The Natural History of the Birds of the United States. By Alexander Wilson. With a life of the author, by George Ord, F.R.S. With continuation by Charles Lucien Bonaparte (Prince of Musignano). POPULAR EDITION, complete in one volume with 385 figures of birds. Imp. 8vo. Cloth, \$7.50. Half Turkey mor., \$12.50. Porter & Coates, Philadelphia.

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ANNALS OF MATHEMATICS. Edited by Ormond Stone and William M. Thornton. Office of Publication: University of Virginia. \$2 per vol. of 6 nos.

MANUAL OF THE BOTANY OF THE ROCKY MOUNTAINS. Coulter (Wabash Coll.), 8vo., 49 pp. \$1.85. Ivison, Blakeman, Taylor & Co., Pubs., New York.

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GEOLOGY, CHEMICAL, PHYSICAL, AND STRATIGRAPHICAL. By Joseph Prestwich, M.B., F.R.S., F.G.S. Correspondent of the Institute of France, Professor of geology in the University of Oxford. In two vols. Vol. I.: Chemical and Physical. 8vo. \$6.25. (Oxford University Press.) Macmillan & Co., Pubs., New York.

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PHYSIOLOGICAL BOTANY: I. Outlines of the Histology of Phaenogamous Plants; II. Vegetable Physiology. Goodale (Harvard), 8vo., 560 pp. \$2.30. Ivison, Blakeman, Taylor & Co., Pubs., New York.

STRUCTURAL BOTANY; or, Organography on the basis of Morphology; the principles of Taxonomy and Phytography and a Glossary of Botanical terms. Gray (Harvard), 8vo., 454 pp. \$2.30. Ivison, Blakeman, Taylor & Co., Pubs. New York.

THE STANDARD NATURAL HISTORY. By all the leading American scientists. Edited by J. S. Kingsley, Ph.D. Vol. I. Lower Invertebrates. Vol. II. Crustacea and Insects. Vol. III. Fishes and Reptiles. Vol. IV. Birds. Vol. V. Mammals. Vol. VI. Man. 6 vols., nearly 2,500 illustrations and 3,000 pages. Imp. 8vo, cloth, \$36.00; half morocco, \$48.00. S. E. Cassino & Co. (Bradlee Whidden), Publishers, Boston.

THE BUTTERFLIES OF THE EASTERN UNITED STATES. For the use of classes in zoölogy and private students. By G. H. French, A.M. Illustrated by 93 engravings and a map of the territory represented. Large 12mo. Cloth. \$2.00. J. B. Lippincott Company, Pubs., Philadelphia.

SCRIBNER'S STATISTICAL ATLAS OF THE UNITED STATES: Showing by Graphic Methods their Present Condition, and their Political, Social, and Industrial Development, as Determined by the Reports of the Tenth Census, the Bureau of Statistics, the Commissioner of Education, State Officials, and other Authoritative Sources. 120 Pages Text, 151 plates (31 double), 279 Maps (22 folio), 969 Charts and Diagrams. Sold only by Subscription. Descriptive circular sent on application. Charles Scribner's Sons, Pubs., 743 and 745 Broadway, New York.

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