

in detail and the paper includes seven excellent analyses.

*Mode of Formation of Till as Illustrated by the Kansan Drift of Northern Illinois:* by OSCAR H. HERSHEY. The following stages are distinguished: (1) The residuary clay is crushed and kneaded, perhaps moved a short distance, but remains free from foreign material. (2) The process is continued, foreign material is added, and there is greater, probably sub-glacial, transformation. This is believed to be represented by most of the till of Stephenson County. (3) Calcareous material is deposited in the till from solution. (4). The horizontal rock caps of the preglacial hills are pushed forward and tilted. (5) These rock masses become fractured and are rolled and kneaded together. (6) By a continuation of the process a very stony till relatively free from foreign rocks is formed. (7) The angular limestone débris becomes commingled with 10 per cent. to 50 per cent. of rounded Canadian pebbles. (8) The red clay, stage 2, may become mixed with the angular limestone, stage 6. (9) Preglacial and marginal lake-bed silts become mixed with the till forming the yellow clay frequently considered to be englacial. Deposition is considered to be largely marginal and mainly subglacial.

*The Geology of the San Francisco Peninsula:* by HAROLD W. FAIRBANKS. Lawson's\* report upon the geology of the peninsula is criticised, the author taking exception to the use of the term chert and the reference to the siliceous bands in the foraminiferal limestone as veins. He dissents from the reference of the origin of the jaspers to siliceous springs on the bottom of the ocean and urges that they were formed from radiolarian and other siliceous remains dissolved in sea water. The 'silica-carbonate sinter' deposits are held to be of recent origin and hence of no value as a base for the correlation of the Knoxville and Franciscan series (Golden Gate Series of Fairbank). It is believed that Professor Lawson has unduly minimized the importance of the disturbances which the older uncrystalline rocks show. Attention is called to the absence of any new evidence for continuing to place the Series in the Cretaceous,

\* Fifteenth Ann. Rept., U. S. Geol. Surv., pp. 405-476.

and the use of the term laccolith in describing the intrusives is deplored. The granite of the Golden Gate Series is held to be older than those of the Sierra Nevada rather than of the same age.  
H. F. B.

#### SOCIETIES AND ACADEMIES.

##### NEW YORK ACADEMY OF SCIENCES.—SUB-SECTION OF ANTHROPOLOGY AND PSYCHOLOGY.

THE Academy met at Columbia University on Monday evening, January 25th, with President Stevenson in the chair. The Sub-section of Anthropology and Psychology immediately organized under the chairmanship of Professor F. H. Giddings and proceeded to the regular program, which consisted of reports upon the winter meetings of the various scientific associations represented in the Section. The first report was by Professor Giddings, upon the meeting of the American Economic Association in Baltimore. The speaker paid particular attention to the presidential address of Professor Henry C. Adams, on 'The Relation of Economics to Jurisprudence;' to the paper of ex-Secretary of the Treasury Charles S. Fairchild on 'What is the Present Direction of Acquisitive Investments? What are the Economic Effects of Such Investments?' and to Professor Arthur T. Hadley's paper on 'The Duty of the Government towards the Investor.'

Dr. Livingston Farrand presented brief abstracts of the more important psychological papers read at the meeting of the American Psychological Association in Boston, December 29 and 30, 1896, and was followed by Dr. Franz Boas, who spoke of the meeting of Section H (Anthropology) of the American Association for the Advancement of Science, in New York, approving the action of the Section in recommending a regular winter meeting, to be held, if possible, at the same time and place as the American Psychological Association and the American Society of Naturalists, and reviewing briefly some of the papers presented at the meeting.

Mr. Harlan I. Smith reported on the American Folk-Lore Society's meeting in New York, on December 20th, dwelling particularly on Miss Fletcher's paper, 'Certain Early Forms of Ceremonial Expression,' and on the discussion

following Dr. Brinton's and Dr. Boas' papers, as to the validity of the theory of the psychic unity of man in accounting for details of similarities in the mythologies of widely separated peoples.

LIVINGSTON FARRAND,  
*Secretary of Sub-Section.*

TORREY BOTANICAL CLUB, TUESDAY, JANUARY  
12, 1897.

THIS was the annual meeting. Six new active and two corresponding members were elected. Resolutions of sorrow were adopted regarding the death of Mr. William H. Rudkin, one of the oldest members, the discoverer of the hybrid oak *Quercus Rudkini*. Annual reports were presented by the standing committees and officers. It was resolved to print a list of the desiderata of the herbarium of plants growing within 100 miles of the city. The Treasurer reported a cash balance of \$56.89 in the regular fund and \$514.14 in the Buchanan fund.

The Recording Secretary, Dr. Rusby, reported an average attendance of 31 persons at the 15 meetings held during the year, two deaths, a net gain in active membership of 28, a present active membership of 219, corresponding membership 150, honorary membership 4, scientific papers presented 37, of which 22 had been published. Several hundred new species and a number of new genera had been communicated, and there had been a marked increase in the attention given to anatomical and cryptogamic subjects.

The editor reported that Vol. 23 of the *Bulletin* had aggregated 548 pages and 34 full-page plates, and that two numbers of the *Memoirs*, aggregating 206 pages, had been issued. There was a cash balance from publications of \$48.09 in addition to the balance already reported by the Treasurer.

The officers for 1897 were elected as follows: President, Addison Brown; Vice-Presidents, T. H. Allen, H. H. Rusby; Treasurer, Henry Ogden; Recording Secretary, Edward S. Burgess; Corresponding Secretary, John K. Small; Editor, N. L. Britton; Associate Editors, Emily L. Gregory, Arthur Hollick, Anna M. Vail, B. D. Halsted, Lucien M. Underwood; Curator,

Helen M. Ingersoll; Librarian, William E. Wheelock.

The scientific programme of the evening was then taken up as follows:

By Mr. A. J. Grout, 'Notes on Some American *Brachythecia*.'

By Dr. N. L. Britton, *Linum Virginianum* and its Relatives.'

Mr. Grout compared the principles of classification employed by the two prominent bryologists, Schimper and Lindberg, and stated his reasons for preferring those of the latter to those of the former. He then exhibited and remarked upon four American species of *Brachythecium* and expressed the opinion that they represent a genus distinct from *Brachythecium*. The paper will be published in full in the *Bulletin*.

Dr. Britton illustrated the leading distinguishing characteristics between the species of *Linum*, of the *Virginianum* group, and dwelt particularly upon the claims to specific rank of *L. Virginianum medium*, Walter.

EDWARD S. BURGESS,  
*Secretary.*

#### NEW BOOKS.

*A Dictionary of Birds.* ALFRED NEWTON, assisted by HANS GADOW. With contributions from RICHARD LYDEKKER, CHARLES S. ROY and ROBERT W. SHUFELDT. Part IV., Sheath-bill-Zygodactyli. London, Adam and Charles Black; New York, The Macmillan Company. 1897. Pp. 833-1088 + viii + 124. \$2.60.

*Experimental Morphology.* Part I., Effect of Chemical and Physical Agents upon Proto-plasm. CHARLES BENEDICT DAVENPORT. New York, The Macmillan Company. 1897. Pp. xiv + 280.

*Travels in West Africa, Congo Français, Corsica and Cameroons.* MARY H. KINGSLEY. New York, The Macmillan Company. 1897. Pp. xvi + 743.

*Elementary Geology.* RALPH S. TARR. New York, The Macmillan Company. 1897. Pp. xxx + 499. \$1.40.

*Catalogus Mammalium.* E. L. TROUESSART. Fasciculus I. Berlin, R. Friedländer & Sohn. 1897. Pp. v + 218. M. 10.