THE frontispiece of *Appleton's Popular Science Monthly* for November is a portrait of Professor F. W. Clarke, Chief Chemist to the United States Geological Survey, and the number contains an account of Professor Clarke's contributions to the advancement of science. In the first article in the number Professor E. S. Morse asks whether middle America was peopled from Asia and answers in the negative. Mr. C. R. Dodge contributes an elaborately illustrated article on the possible fiber industries in the United States, and there are, as usual, a number of interesting articles relating to different departments of natural and social science.

Natural Science announces that it will be transferred to a new editor, who will continue the journal on the same plan as heretofore. Further particulars are deferred until December.

THE jury on 'Imprimerie et Industries de Livre' of the Brussels International Exposition has awarded the *Scientific American* a diploma of merit and a silver medal.

SOCIETIES AND ACADEMIES.

AMERICAN MATHEMATICAL SOCIETY.

A REGULAR meeting of the American Mathematical Society was held at Columbia University, New York City, on Saturday, October 29th. Thirty-six persons were in attendance, including twenty-nine members of the Society. The meeting extended through two sessions, beginning at 10:30 a. m. and 2:30 p. m. The President, Professor Simon Newcomb, occupied the Chair. The Council announced the election of the following persons to membership in the Society: Mr. E. B. Escott, Grand Rapids, Mich.; Dr. L. B. Mullen, Cleveland, O.; Professor J. M. Peirce, Cambridge, Mass.; Professor Alexander Pell, Vermilion, S. D.; Professor Arthur Ranum, Seattle, Wash.; Mr. A. N. Whitehead, Cambridge, Eng.; Mr. W. C. Wright, Boston, Mass. Five applications for membership were received. The total number of members of the Society is now 315. At the meeting of the Council nominations of officers for the coming year were made, and a report was received from the committee appointed at the preceding meeting to consider the question of improved facilities for the publication of the result of original research in mathematics in this country.

The following papers were read at the meeting:

1. Professor F. MORLEY: 'A regular configuration of ten line-pairs in hyperbolic space.'

2. Professor R. S. WOODWARD: 'The mutual gravitational attraction of two bodies whose mass distributions are symmetrical with respect to the same axis.'

3. Professor E. D. ROE: 'On symmetric functions.'

4. Professor A. S. CHESSIN: 'Note on the problem of three bodies.'

5. Professor MAXIME BÔCHER: 'On singular points of linear differential equations with real coefficients.'

6. Professor E. O. LOVETT: 'Contact transformations of developable surfaces.'

7. Dr. L. E. DICKSON: 'The largest linear homogeneous group with an invariant Pfaffian.'

F. N. COLE.

BIOLOGICAL SOCIETY OF WASHINGTON.—296TH MEETING, SATURDAY, NOVEMBER 5.

MR. F. V. COVILLE exhibited a specimen of lava from Mt. St. Helens, bearing the impression of the bark of a pine, saying that he had been told of the existence of stumps and logs buried in the lava on that mountain.

Mr. Albert F. Woods showed some leaves 'skeletonized' by the small fresh-water crustacean *Cypridopsis*.

Mr. H. J. Webber noted the occurrence of several sports of a species of *Clarkia* which had borne ripe seeds, a thing rather unusual among sports.

Mr. D. G. Fairchild spoke of 'the Dutch Botanical Gardens at Buitenzorg, Java,' illustrating his remarks by photographs. He said that the gardens practically were a biological station, and that in the future they would undoubtedly be much resorted to by students of all nations. In addition to the gardens at Buitenzorg, which comprised 127 acres, about 800 feet above sea level, there was another 'mountain garden' at Tjibodas, some five hours distant, containing a large tract of forest, ranging from 4,500 to 8,000 feet above sea level.

Dr. L. O. Howard described 'the Outbreak of the Fluted Scale in Portugal, and its Results,' stating that the scale had been brought from Australia to the Cape de Verde Islands on *Acacias*, introduced to form windbreaks for the orange plantations, and thence carried to Portugal. In 1896, when the insect had spread over a considerable extent of territory, the Australian Lady-bug was brought from the United States, with the result that within a year it had practically exterminated the scale insect.

Mr. Charles T. Simpson told of 'the Destruction of the Pearly Fresh-water Mussels' in the central United States, saying that their wholesale gathering for pearls and for use in making buttons threatened to exterminate them in many sections, and the injury was aggravated by the drainage of large tracts and by the contamination of the streams by sewage. The speaker briefly described the breeding habits of the two great groups of fresh-water mussels and suggested some remedial measures.

Mr. F. A. Lucas noted 'the Occurrence of Mammoth Remains on the Pribilof Islands,' stating that Mr. R. E. Snodgrass and the party from Stanford University had, in 1897, obtained two teeth of the Mammoth and bones of a bear, apparently distinct from the existing Polar Bear, from a lava cave on Bogoslof Hill. He was of the opinion that possibly the presence of these bones in such a situation might indicate the comparatively recent connection of the island with the mainland.

F. A. Lucas,
Secretary.

ENTOMOLOGICAL SOCIETY OF WASHINGTON.

November 3, 1898. Under the head of exhibition of specimens Mr. Heidemann showed *Dichocysta pictipes* Champion, originally described from Panama, which has recently been collected in the Santa Rita Mountains of Arizona by Mr. Schwarz. Mr. Schwarz showed specimens of a Pyromorphid moth and a Lampyrid beetle from Arizona which appear identical during flight. He described the peculiar flight habits of both species. Dr. Dyar stated that the mimicry is complicated in this case by the fact that there are three moths, an Arctiid and a Syntomeid in addition to this Pyromorphid, which with the Lampyrid beetle all look almost exactly alike while flying. Professor Uhler spoke of the progress of his work upon the Capsidæ, showing that from recent collections in Mexico and South America he is beginning to find that many of our United States forms have a much more southern origin than has hitherto been supposed.

Mr. Howard read a paper entitled 'An Insect Breeding in Petroleum,' showing that an Ephydrid fly, described by Mr. Coquillett in connection with this paper as *Psilopa petrolei* n. sp., breeds in large numbers in crude petroleum pools in the neighborhood of oil wells near Los Angeles, Cal. This insect has not previously been mentioned in entomological literature. It has been known to oil men for some time and is referred to incidentally by S. F. Peckham in his 'Report on the Production, Technology and Uses of Petroleum and Its Products' in Volume X., Tenth Census Reports.

Mr. Schwarz continued his paper of the previous meeting on 'Southern Arizona and its Insect Fauna,' speaking especially of the sharp demarcations in the life zones in Arizona on account of the extremely variable altitudes, producing a complexity of zones which is more marked than elsewhere in the United States. He described at length the characteristic features, both botanical and entomological, of the regions mentioned, showing among other interesting points that Dr. Merriam's conclusion that the valley of the Colorado River is tropical is hardly substantiated by a study of the insects. The paper was discussed at length by Messrs. Gill, Howard, Ulke, Pollard, Ashmead and Uhler.

L. O. Howard,
Secretary.

TORREY BOTANICAL CLUB, OCTOBER 11, 1898.

The evening was devoted to informal reports of summer observations and experiences. The Secretary spoke of collections in the White Mountains and on the Massachusetts coast and near Lake Erie.

Dr. Britton spoke of the progress made at the Botanic Garden, especially in the advancement of the museum building, and reported the pros-

perous condition of the herbaceous garden, now with over 2,700 species, a mass of bloom during the season. One day in July the visitors to the grounds numbered 4,000. Interesting questions of specific identity are being confirmed by cultivation at the Garden, as in the case of *Potentilla pumila.*

Dr. Britton also announced the forthcoming scientific expedition to Porto Rico, Mr. A. A. Heller going as botanist under the auspices of the New York Botanic Garden, through the liberality of Mr. Cornelius Vanderbilt.

Dr. Underwood reported botanical work in the forests of Thuringia, and examination of fern types at Berlin. He referred to the excellent preservation of the plants of Willdenow at Berlin, and to the strength of the Berlin Herbarium, enriched by the work of Prantl, the collections of Mettenius, Maximilian-Kuhn and the Hawaiian herbarium of Hildebrand. Dr. Underwood described the new botanic garden laid out by Professor Engler, near Berlin, exhibiting modern ideas of geographic distribution.

Dr. Rusby reported a summer spent largely in procuring material for the study of drugs in powdered condition. Drugs now come chiefly to the pharmacist powdered, and adulterants are less easily recognized.

It was reported that Professor Henry Kraemer, formerly of this Club, had devised a key for powdered drugs. Dr. Rusby's search for genuine *Apocynum cannabinum*, with broad, thick leaves, woolly beneath, has proved disappointing; *A. album*, with recurving habit, replacing it in the region about New York City.

Mr. A. A. Heller spoke of his experience in the Olympic Mountains, where the continuous rains interfered with collections. Ferns grew in great profusion and often five feet high, but of few species. The Salmonberry varied from yellow to deep red and was often an inch in diameter on bushes ten feet high. *Oxalis Oregana* made a fine display, as also several species of *Vaccinium*, *V. parvifolium* with red and *V. ovalifolium* with blue berries. An introduced blackberry, *Rubus laciniatus*, is now well established there, blooming from July to Christmas, and known as the Evergreen Blackerry. *Spiræa Menziesii* grew by the streams, with its rose-colored spike a foot and a-half high. *Lilium Columbianum* appeared in the meadows. There were not many representatives of any family, only about 20 composites out of 250 plants collected, of grasses 35. Later, Mr. Heller collected in August and September, in Texas and Arkansas, with marked success.

Professor Lloyd reported a summer spent in study in the laboratory of Professor Goebel, at Munich, and commented upon the botanic garden there, which, although of but few acres, is exceedingly well arranged for educational purposes.

Mr. M. A. Howe reported work on the Hepaticæ, and his discovery, on a hemlock stump in the New York Botanic Garden, of genuine *Cephalozia connivens* for the first time in the United States, the plant distributed by Austin under that name proving distinct.

Mr. Clute reported work on the sand barren flora of eastern Long Island. Among his collections were *Dryopteris simulata*, only once before recorded from New York State; *Kneiffia Alleni*, new to North America; *Pogonia verticillata*, in quantity near Southampton; *Kalmia latifolia*, within twenty-five feet of the sea-level; *Potentilla pumila* and *P. Canadensis* growing together without mixing.

Discussion regarding violets followed. Professor Britton exhibited some fresh flowers of *Viola cucullata*, borne on peduncles normally cleistogene, and with some of the flowers transitional in character. President Brown spoke of similar flowering in *V. sagittata.* Dr. Britton and the Secretary reported their collecting cleistogenes of *V. Atlantica* this season for the first time. Mr. Clute described his study of the cleistogenes in *V. cucullata*, *V. ovata*, *V. rostrata* and *V. Canadensis.* They are developed during the heat of summer. Cool temperature seems needed to secure free flowering in *Viola*, as also seen in the greenhouse cultivation of pansies. Mrs. Britton called attention to the continuous summer blooming of *V. tricolor* in the cooler climate of the Adirondacks and of the Alps. Mrs. Britton also reported the collection, at Lake Placid, of *Viola arenaria* for the first time in New York State.

EDWARD S. BURGESS,
Secretary.

BOTANICAL SEMINAR OF THE UNIVERSITY OF NEBRASKA.

IN a convocation at the opening of the semester, meetings were appointed for October (papers by Dr. Bessey, Dr. Pound and Dr. Clements), November (symposium on cytology led by Dr. Ward), December (papers by Dr. Ward, Dr. Clements and Mr. Horne), January (symposium on physiology led by Dr. Bessey).

October 22, 1898, papers were read and discussed as follows: 'Recent studies in the arrangement of the families of Protophytes,' by Dr. Bessey; 'A review of Pax's Pflanzenverbreitung des Carpathiens,' by Dr. Clements; 'A discussion of Kuntze's Revisio generum plantarum III^{II},' by Dr. Pound.

It was agreed that the last paper should be prepared for early publication.

THE ACADEMY OF SCIENCE OF ST. LOUIS.

AT the meeting of the Academy of Science of St. Louis on the evening of October 17, 1898, Mr. C. H. Thompson spoke of some interesting stylar movements of certain Marantaceæ, connected with their pollination.

Seven persons were proposed for active membership in the Academy.

At the meeting of the Academy on the evening of November 7, 1898, Mr. James A. Seddon, of the Missouri River Commission, presented a paper on 'Resistance to Flow in Hydraulics,' in which the point was made that relatively a small part of this resistance, so far as open streams were concerned, was directly attributable to friction against the bottom and limiting banks, but that the resistance was found acting between accelerations and impacts and showed in forced distortions of the free surface, from which forms the energy passed into internal motion.

Seven persons were elected to active membership in the Academy.

WILLIAM TRELEASE,
Recording Secretary.

ALABAMA INDUSTRIAL AND SCIENTIFIC SOCIETY.

THE regular fall meeting of this Society was held in Birmingham, November 8, 1898, Professor M. C. Wilson, of Florence, President, presiding. About fifteen members and others were present. The Secretary read the report of a committee appointed for the purpose of considering the matter of recommending legislation to secure full returns of mineral statistics. In this report it was recommended that the Society ask the Legislature to amend the State mining laws so as to require the operators and lessees of mines, quarries, furnaces, coke works, clay beds and industries based on clay to make monthly returns of their production to the State Mine Inspector, and at the end of the year an annual report of the same. This course, it is thought, would be most likely to secure full and accurate returns. The Society then adopted resolutions requesting the Governor to urge upon the Legislature the importance of making appropriation for the purpose of securing representation for the State at the coming Paris Exposition, and also of memorializing Congress to take suitable steps for bringing about a change in the present French tariff laws so far as regards American iron.

There were no formal papers presented at this meeting, but steps were taken to secure articles at future meetings by assigning definite subjects to members. Seven new members were elected, after which the Society adjourned until the annual meeting in January, at which time there will be an election of officers for the ensuing year.

EUGENE A. SMITH,
Secretary,

NEW BOOKS.

Food and Feeding. SIR HENRY THOMPSON. London and New York, Frederick Warne & Co. 1898. Ninth Edition, enlarged and revised. Pp. 312. $1.75.

Bush Fruits. FRED. W. CARD. New York and London, The Macmillan Co. 1898. Pp. xii+537. $1.50.

Nature Study for Grammar Grades. WILBUR S. JACKMAN. Danville, Ill., Illinois Printing Co. 1898. Pp. 407.

Répertoire bibliographique des principales revues française pour l'année, 1897. DR. JORDELL. Paris, Per Lamm (Librarie Nilsson); New York, Lemcke & Buechner. 1898. Pp. 209.