writer, who is an acute botanist as well; but just as he concludes these interesting pages he comes upon Miss Tilden's paper on botanizing in the Hawaiian Islands, and is fascinated again. So it is with all the articles. There is not a dull paper in the seven, and the editor is to be congratulated upon his skilful selection. He has achieved something literary in this volume, while at the same time adding not a little to our botanical knowledge. It is one of the very few botanical books which possess a distinctly literary flavor, and for this reason, in addition to its botanical merits, it is to be highly commended.

CHARLES E. BESSEY.
THE UNIVERSITY OF NEBRASKA.

SOCIETIES AND ACADEMIES.

BIOLOGICAL SOCIETY OF WASHINGTON.

THE 364th meeting was held Saturday, January 10.

Walter H. Evans stated that a bill had just been passed making a forest reserve of that portion of Porto Rico containing the only tract of primitive forest now remaining on the island.

Mr. L. O. Howard exhibited a series of lantern slides giving a pictorial history of the recent investigation of the etiology of yellow fever by the Army Yellow Fever Commission and the subsequent Board of Health of Havana. The slides included photographs of Major Reed, Drs. Carroll, Lazier and Agramonte, Dr. Carlos Finley, and Dr. Guiteras, as well as of Camp Lazier, the Las Animas Hospital and laboratories, and a number of others. He spoke eulogistically of the work of the commission and dwelt on the enormous value to humanity of the results of their work. He referred to the deaths of Drs. Reed and Lazier, and mentioned the memorial raised to the latter, and that now in progress for the former, as deserving in the highest degree of contributions from all scientific men. He also stated that in honoring the immortal dead we must not forget the living, and reminded the society that Dr. James Carroll, one of the society's members, was a member of the commission and in the thick of the struggle had been attacked with yellow fever but fortunately had recovered, and that he should receive the highest honor for the rest of his life.

S. F. Meek spoke on 'The Geographic Distribution of the Fresh-water Fishes of Mexico,' illustrating his remarks with lantern slides. He stated that four distinct fish faunas were represented in Mexico—that of the Rio Grande, with 80 species; the Colorado, with 9 species in western Sonora; the Lerna basin, with 49 species; and a tropical fauna with 137 species. The fauna of the Lerna basin was the most remarkable, for of the 49 species not one was found in any other river, while 9 of the 18 genera were peculiar to this basin. Sixteen of the species belong to the salt-water family Atherinidæ, and were the only salt-water fishes represented on the Mexican plateau. Seventeen species, including one *Gambusia,* belong to the Pœcilidæ, and all are viviparous. With the exception of the *Gambusia* these have the first six rays of the anal fin short and stiff, and having the same position in the males and females, while the viviparous Pœcilidæ previously known have the anal fin slender and placed well forward. The speaker noted that the tropical fishes extended northwards in a belt on the east and west coasts, reaching the highest latitude on the east. On the west coast the Cichlids extend to Mazatlan, and the Characins reach only to the Balsas, while on the east coast the Characins are the most northerly. He was of the opinion that the fish fauna of the Rio Grande region was derived from the Mississippi Valley, and that of Sonora from the Colorado. As for the Lerna region he believed that it was an island with a well-established fauna before a rise of the continent made it part of the mainland, and that it has since been a center of distribution.

O. P. Jenkins discussed 'The Rate of the Nervous Impulses in Certain Invertebrates,' saying that so recently as fifty years ago the most diverse opinions prevailed regarding the speed of nervous impulses, and that it had even been thought to exceed the speed of light. The experiments of Helmholtz showed that the rate was comparatively slow, being in the frog but ninety feet a second. Mr. Jenkins then detailed his own experiments

with various invertebrates, saying that he had found the lowest rate, 44 cm. per second, in a species of *Limax,* and the highest, 424 cm. per second in a squid; this rate was subject to very considerable individual variation.

Incidentally he noted that the collection of marine invertebrates showed a large number of new species of marine worms, and that the coast of California would probably prove a good collecting ground. F. A. Lucas.

MEETING OF THE SAN FRANCISCO SECTION OF THE AMERICAN MATHEMATICAL SOCIETY.

A regular meeting of the San Francisco Section of the American Mathematical Society was held at the University of California on December 20, 1902. Sixteen members of the society were present. By an amendment of the by-laws the name of section was changed from Pacific to San Francisco. The following papers were read:

Professor R. E. Allardice: 'On a system of similar conics through three points and its transformation group.'

Professor H. F. Blichfeldt: 'On a property of conic sections.'

Professor L. E. Dickson: 'Generational relations for the abstract group G simply isomorphic with the linear fractional group in the Galois field of order p^n.'

Professor L. M. Hoskins: 'A simple method of determining the free nutation of a yielding spheroid.'

Dr. D. N. Lehmer: 'On the parametric representation of the tetrahedroid surface.'

Professor A. O. Leuschner: 'Elimination of aberration and parallax in calculating preliminary orbits.'

Mr. W. A. Manning: 'The positive primitive substitution groups of class $2p$, p being any prime.'

Professor G. A. Miller: 'On the holomorph of a cyclic group.'

Dr. C. A. Noble: 'A problem in relative minima.'

Dr. S. D. Townley: 'The probability of collisions amongst the stars.'

Professor E. J. Wilczynski: 'On a certain congruence associated with a given ruled surface.'

The paper by Professor Dickson was presented by the secretary. In the absence of Professor Leuschner his paper was read by title. The other papers were presented by their authors. The next meeting of the section will be held at Stanford University in May, 1903.

G. A. Miller,
Secretary.

CORNELL SECTION OF THE AMERICAN CHEMICAL SOCIETY.

The Cornell Section of the American Chemical Society was organized in December last, and has now received its charter from the national organization. The territory embraced by the section is that lying within a radius of ten miles from Cornell University, Ithaca, N. Y., with headquarters at the university. At the time of organization there were twenty-four members of the American Chemical Society who became charter members of the Cornell section. Since then the membership has increased to forty-four.

The officers for the current year are:

President—Professor L. M. Dennis.

Vice-President—Professor W. D. Bancroft.

Secretary-Treasurer—Mr. W. C. Geer.

Executive Committee—Messrs. Dennis, Bancroft and Geer, *ex officio,* Professor W. R. Orndorff, Mr. J. E. Teeple and Mr. J. G. O'Neill.

Councilor from Cornell Section—L. M. Dennis.

Councilor ex officio—G. C. Caldwell.

The meetings of the section are to be held monthly in Morse Hall, Cornell University. The evenings will be occupied largely with original papers read by members of the society, but it is planned to vary the meetings with occasional lectures or addresses by men well known for work in special fields. Thus in the course of the year there will be interspersed with the original papers, addresses on subjects of technical importance and on the more chemical phases of allied sciences. By this means the society will conserve all the fundamental aims of the American Chemical Society, as well as aid in broadening the horizon of the members of the section by keeping them in touch with the progress of those sciences which so frequently extend into the fields of chemical research.

The first meeting was held on the evening of December 15. Papers which presented the results of original work done in the chemical department were read and discussed. Mr. E. S. Shepherd read a paper on the

'Alloys of Lead, Tin and Bismuth'; Mr. G. H. Burrows, on 'Reduction with Soluble Anodes'; and Mr. J. G. O'Neill on 'The Determination of the Benzene in Illuminating Gas.'

At the second meeting, which was held on the evening of January 12, the section was addressed by Professor W. D. Bancroft, on the 'Theory of Indicators.' The lecturer illustrated his remarks by many experiments which were explained on the basis of the theory of electrolytic dissociation.

The favorable auspices under which the Cornell Section begins existence seems to augur for it a highly successful future.

W. C. GEER,
Secretary.

ELISHA MITCHELL SCIENTIFIC SOCIETY.

THE 144th meeting was held in Person Hall, University of North Carolina, Tuesday, December 9, at 7:30 P.M.

The secretary called attention to the importance of the coming Washington meeting of the American Association.

Professor J. W. Gore spoke of his experiments on 'Wireless Transmission of Electrical Energy.'

Mr. Gore called attention to the fact that an ordinary telegraphic current will cause a coherer to respond when the antenna is near and placed in any position relative to the current. When at right angles, this effect cannot be due to the cutting of the antenna by magnetic lines of force from the current. It is to be inferred that electrostatic induction causes the action of the coherer, just as is the case when the antenna is near an open circuit connected to a terminal of an induction coil, or near an insulated conductor whose potential is suddenly changed.

It was stated that possibly wireless transmission of energy is due to the propagation of waves started by oscillatory electrostatic stresses between earth (conductor) affected ether and the ether some distance above the earth.

Mr. R. O. E. Davis, in a paper on 'Improvement in Method of Halogen Determination,' presented the results by Professor Baskerville and himself in their efforts to obtain a more satisfactory method for the determination of chlorine in their work on the atomic weight of thorium. Abstract of his paper has been printed in the *Proceedings* of the North Carolina Section of the American Chemical Society.

Mr. G. N. Coffey, of the United States Soil Survey, gave an interesting account of its work in the field and laboratory, and the benefits to be derived therefrom.

CHAS. BASKERVILLE,
Secretary.

COLUMBIA UNIVERSITY GEOLOGICAL JOURNAL CLUB.

January 9.—Dr. A. A. Julien reviewed 'Recherches Geologiques et Petrographiques sur L'oural du nord,' par Louis Duparg. Among the new rocks noted was koswite, which is composed of olovine and pyroxene cemented together by magnetite. Dunite also occurs there in great continuous sheets, with its individual grains much larger than that from North Carolina.

January 16.—Professor Kemp gave a talk upon some large specimens of covellite which he had just received from Butte, Mont.; also upon some native gold in a quartz vein from the North Star Gold Mines, Grass Valley, Cal. This latter was obtained at a vertical depth of about 2,000 feet. He also showed and commented favorably upon Professor J. C. Branner's 'Syllabus of a Course of Lectures on Elementary Geology.' Mr. G. I. Finlay discussed the method of recalculation of chemical analyses as applied to the new system of classification of igneous rocks.

January 23.—Professor Kemp showed some platinum nuggets from British Columbia, some large specimens of ruby silver ore from Chili, and rich copper ore from Summerville, N. J. Mr. G. I. Finlay then continued from the previous week his discussion of the new classification of igneous rocks. Professor Kemp will take up the discussion next week.

H. W. SHIMER.