ornithology, as well as to call attention to the connection between the form and function of these parts. A course of lectures on the birds of spring is announced. The Supplement is a 'guide leaflet' to the collection of baskets from the graves of the ancient Indians of southeastern Utah, which comprises the oldest known baskets from this continent.

The Popular Science Monthly for May opens with a discussion of 'The Electronic Theory of Electricity' by J. A. Fleming, while a review of the 'Sulfuric Acid and Its Manufacture by Contact-process' is given by R. Kneitsch. Carl H. Eigenmann considers 'The Physical Basis of Heredity,' concluding that the chromatic threads are the carriers of hereditary power; the article is very clearly written and enlivened with touches of humor here and there. 'Children's Vocabularies' are discussed by M. C. and H. Gale, who show that these are, even for very young children, much more extensive than is generally imagined, and that they largely depend on what the children wish. Havelock Ellis presents an article on 'Mescal: A Study of a Divine Plant,' giving in detail the results of some experiments, and deciding against it as a therapeutic agent. 'Infectious Diseases' and their possible cure is by Alfred Springer and 'The Relations of Electrically charged Molecules to Physiological Action' by Jacques Loeb, while A. S. Packard describes 'An Afternoon at Chelles and the Earliest Evidences of Human Industry in France.'

Harper's Magazine for May contains an article on 'Marine Fish Destroyers' which fairly teems with erroneous statements and misleading deductions. It is only necessary to cite Dinosaurs one hundred feet in length, with a height of thirty feet and a thigh bone eight feet high, Mosasaurs seventy-five feet in length, and Zeuglodonts with limbs unknown, to show the exaggerated style of statement. The largest Dinosaur actually measured falls inside of seventy-five feet, and the largest femur found is six feet eight inches long, and but a single one of this size has ever come to light. Few Mosasaurs reached a length of forty feet and the vast majority are under twenty-five, while the limbs of Zeuglodon are known. The misleading deductions are as to the amount of fish destroyed by these animals, the writer not taking into account the fact that it is by no means proved that all these extinct animals lived so extensively on fish as is stated, and that it is not at all probable that they required a hearty dinner every day, much less obtained one. Worst of all is the inference that since so many fishes perish from natural enemies it makes no difference how many man captures, nor does it do any good to pass laws for their protection. Aside from the universal decrease of anadromous fishes which are particularly open to the attacks of man we have the notable decrease of the whitefish and Lake Trout of the Great Lakes, the noticeable diminution in the size of mackerel brought to market and the fact that the halibut fishery is now prosecuted at depths and distances once undreamed of. It would hardly be necessary to notice this paper at length but for the fact that the position and titles of its writer give undue weight to its statements in the mind of the reader, while its publication in a popular magazine spreads it broadcast and causes it to be read by hundreds who will not know that there is quite another side to the subject.

SOCIETIES AND ACADEMIES.

A PACIFIC SECTION OF THE AMERICAN MATHEMATICAL SOCIETY.

The mathematicians of the Pacific Coast held a meeting in San Francisco on May 3 and formally organized the second Section of the American Mathematical Society, to be known as the Pacific Section. The following officers were elected: Professor Irving Stringham, *Chairman;* Professor G. A. Miller, *Secretary;* Professor R. E. Allardice, Dr. E. J. Wilczynski and the secretary, program committee. The following papers were presented during the two sessions of the Section:

'On a Linear Transformation, with some Geometrical applications': Professor R. E. ALLARDICE, Stanford University.

'A Movement whose Centrodes are Cubics': Dr. E. M. BLAKE, University of California.

'On the Determination of the Analytic form of the Distance between two Points by means of Distance Relations': Professor H. F. BLICHFELDT, Stanford University.

'A Canonical form of the Binary Sextic': Professor M. W. HASKELL, University of California.

'Constructive Theory of the Unicursal Cubic by Synthetic Methods': Dr. D. N. LEHMER, University of California.

'Algebraic Relations among the Integrals and the Reducibility of Linear Differential Equations: Dr. SAUL EPSTEEN, Göttingen. (By title.)

'The Limits of the Minima of Definite Ternary Forms': Dr. J. H. MCDONALD, University of California.

'A Short Method of Deriving Osculating Elements of the Major Planets': Professor A. O. LEUSCHNER, University of California.

'On the Groups of Genus One': Mr. W. A. MANNING, Stanford University.

'Determination of all the Groups of Order p^m, which include the Abelian Group of Order p^{m-1} and of type (1, 1, 1, − − −)': Professor G. A. MILLER, Stanford University.

'On the Non-Abelian Groups in which every Subgroup is Abelian': Dr. H. C. MORENO, Stanford University.

'Dynamic Effect of Stationary Waves on Immersed Bodies': Mr. P. G. NUTTING, Göttingen. (By title.)

'Concerning Quadruple Systems': Dr. T. M. PUTNAM, University of California.

'A Synthesis of Orthogonal Substitutions': Professor IRVING STRINGHAM, University of California.

'Congruences Defined by Functions of two Complex Variables': Mr. A. W. WHITNEY, University of California.

'Geometry of the Covariants of a Binary System of Linear Homogeneous Differential Equations': Dr. E. J. WILCZYNSKI, University of California.

According to the By-Laws adopted by the Section there will be two meetings per year—one in May and the other in December. These meetings are to be held in or near San Francisco. The first Section of the American Mathematical Society, known as the Chicago Section, was organized in 1897 and also holds two meetings per year. The Society holds four meeting per year at Columbia University in addition to a summer meeting, which has generally been held in connection with the meetings of the American Association for the Advancement of Science.

G. A. MILLER,
Secretary.

ANTHROPOLOGICAL SOCIETY OF WASHINGTON.

THE 328th meeting was held March 11. A presentation of casts of the Neanderthal, Spy and Engis skulls was made by President W. H. Holmes and Dr. Frank Baker.

Professor Holmes placed the geologic time scale on the blackboard and located on it the various finds of fossil human remains, explaining the conditions under which the finds were made and the difficulties attending even approximate accuracy in determining their position.

From the somatological point of view Dr. Baker discussed the criteria of the determination of skulls and applied these to the crania under discussion. Dr. Baker said that the Neanderthal and Spy skulls are certainly not pathological as has been affirmed by some writers. Mr. J. D. McGuire in discussing the paper held that the man of Spy was possessed of classes of artifacts belonging to a much later period than students had generally admitted.

Dr. A. E. Jenks read a paper entitled 'Some Steps in Amerindian Economics.' This paper defined economic man as one who produces for use and future gain and affirmed that the American Indian north of Mexico had arrived at economic emancipation. Dr. Jenks outlined the study of economics in this field, giving the ramifications growing out of production for future gain and the effects on the development of the American Indian. The paper was heard with great interest and provoked an extended discussion participated in by Dr. J. Walter Fewkes, J. D. McGuire, Professor W. H. Holmes and Walter Hough.

The 329th meeting was held March 25, and was devoted mainly to technologic subjects.

Mr. Emil Berliner gave an interesting talk on the history of instruments for recording and repeating sounds, tracing the inventions from the eighteenth century to the present. The earliest form of phonograph with tinfoil sheets on which records of speech were made and gramaphone of the most recent type were exhibited and contrasted.

Mr. Fred. M. Tryon read a paper dealing with the development in hydrotechnics tracing the historic and ethnographic range of the in-

ventions applied to raising and distributing water and showing the tremendous strides made in the art at the present time.

Mr. P. B. Pierce's paper on wireless telegraphy presented in an attractive manner this most recent of the great inventions. Mr. Pierce pointed out the various steps by which wireless telegraphy came to be and called attention to the interaction of minds and inventions to produce new inventions. In conclusion Mr. Pierce explained the apparatus employed in wireless telegraphy.

The 330th meeting was held April 8.

Dr. Franz Boas of the American Museum of Natural History, New York, read a paper entitled 'Anthropological Organization in America.' The paper, which was prefaced with a review of the history of the existing societies, was devoted to a discussion of the question whether it is advisable to add a new organization to the number as has been lately proposed in the formation of an association of a national character, or to centralize and combine all such agencies in such manner as to strengthen the present and prospective organizations. Dr. Boas concluded that such work could be better done through Section H. of the American Association of the Advancement of Science, swarming from the parent hive as the Geological, Chemical and other Societies, from their respective Sections of some years ago.

In the discussion of Dr. Boas' paper, participated in by W J McGee, W. H. Holmes, Dr. George M. Kober, J. Walter Fewkes, and J. D. McGuire, there seemed to be a consensus of opinion that the new society should be of a national character, organized on broad lines, designed to promote the interests of anthropology in America. It was recognized that for convenience of meetings, etc., it might be advisable to maintain a connection with the American Association if such arrangement could be made.

A paper by Hon. A. R. Spofford followed, entitled 'Ceremonials, National, International and Social,' which was entertaining and instructive. Mr. Spofford rapidly sketched the wide range of ceremonial forms in time and their prevalence among uncultured peoples. The ultra forms of ceremonious politeness were held up to ridicule. WALTER HOUGH.

DISCUSSION AND CORRESPONDENCE.

THE VOLCANIC ERUPTION IN MARTINIQUE AND POSSIBLY COMING BRILLIANT SKY GLOWS.

THE terrific volcanic eruption in Krakatoa, near Java, in 1883, was productive of such brilliant phenomena in the sky and air and added so materially to our knowledge of the motions of the atmosphere that meteorological observers would do well to watch for the earliest appearance of similar phenomena from the recent outbursts in the West Indies. Such observations may aid greatly in the study of the motions of the air.

Up to the date of the Krakatoa explosion, it had been supposed by meteorologists that the air forming the trade winds approached the equatorial belt from both sides and ascending near the equator turned toward the poles, becoming a southwest upper current in the northern hemisphere and a northwest upper current in the southern hemisphere, flowing over the trade winds below.

The observations on the Krakatoa phenomena gathered by the committee of the Royal Society and discussed by Russell and Archibald show that the upper currents in the tropics between 20°N. and 20°S. moved from the east with a velocity of about 75 miles an hour. This was indicated by the progress of the haze and sky glows which were traced around the world three times in succession. (See 'The Eruption of Krakatoa and Subsequent Phenomena,' London, 1888.) The very fact that the authors were able to follow the dust cloud and its attendant phenomena indicates that the upper air movement within this belt is very uniform in velocity and direction, otherwise the cloud of smoke and haze would have very quickly disintegrated and it would have been impossible to trace it even once around the world with a nearly parallel front as was done by Russell.

These observations were not in accord with theory and it was at first supposed they might be due to temporary movements of the atmosphere. But Abercromby was so much impressed by the phenomena that he began to