bor vigorous nitrifying organisms, whereas that sea water with which it is in equilibrium in the system should not. It is difficult to account for this, except by assuming that the solution surrounding the sand particles is of a very different nature from that in the sea water above, and yet the possibility of that seems rather remote. Of course small amounts of organic matter covering the sand particles may afford protection for the bacteria. Further experiments which I am conducting may throw some light on this question.

CHAS. B. LIPMAN
UNIVERSITY OF CALIFORNIA

A RECENT SCIENTIFIC EXPEDITION TO THE ISLANDS OFF THE WEST COAST OF LOWER CALIFORNIA

AT the Berkeley meeting of the Pacific Division of the American Association for the Advancement of Science in 1921 there was appointed a Committee on Conservation of the Marine Life of the Pacific, Dr. Barton Warren Evermann, chairman. One of the first tasks which the committee undertook was the making of recommendations for the protection of certain of the marine mammals or for the gathering of necessary information which would make it possible to advocate a concrete plan in the future. With regard to certain species, there already existed sufficient data so that definite action could be undertaken at once, but with other species practically nothing was known of their present status. This was notably true of the Guadalupe elephant seal, Guadalupe fur seal and southern sea otter, all of which once existed in great abundance along the shores of California and Lower California.

Through the activities of the committee, an expedition was dispatched from San Diego to the islands off the west coast of Lower California on July 9, 1922, for the primary purpose of securing data on the three above mentioned species of mammals. The government of Mexico provided the fisheries patrol boat *Tecate* for the work and met all expenses while the party was in the field. Professor Carlos Cuesta Terron, curator of fishes and reptiles of the National Museum of Mexico, was in charge of the expedition and the Mexican government was further represented by Professor José Mª Gallegos, of the National Museum, Srs. Joaquin Palacios, inspector, and Rudolfo Lascano, assistant inspector of lighthouses, Sr. Enrique Gonzalez, fisheries inspector, and Sr. Luis Rubio, taxidermist.

Through the intercession of Dr. A. L. Barrows, of the National Research Council, the National Geographic Society rendered financial assistance which made it possible for the committee to enlarge the scope of its work by securing the cooperation of the California Academy of Sciences, represented by Mr. Joseph R. Slevin, assistant curator of herpetology, Mr. Frank Tose, chief taxidermist, and the writer; of the San Diego Society of Natural History, which sent Mr. A. W. Anthony, curator of vertebrates, and Mr. Ernest Hinkley, assistant; and the Scripps Institution for Biological Research, represented by Mr. P. S. Barnhart. Mr. Anthony and the writer were placed in charge of the scientific investigations.

The motor ship *Tecate* was admirably suited to the work in hand and the success of the expedition was in no small measure due to the constant interest of Captain Victor Angulo and his well trained crew. Everything possible was done to aid the observers and collectors during the five weeks in the field.

The expedition returned to San Diego on August 16, after having visited the following islands: Guadalupe, San Martin, Cedros, the San Benitos, Natividad, San Roque, Asuncion, Magdalena and Santa Margarita. Landings were also made at Ensenada, San Quintin Bay, San Bartoleme Bay and Abreojos Point on the Lower California peninsula. Besides making collections at all of these places the coast line was studied at close range for considerable distances from the vessel, particularly the bight known as San Cristobal Bay, where elephant seals are known to have once hauled out in numbers.

The herd of elephant seals on Guadalupe Island was carefully studied and counted and, although the results can not as yet be announced, it may be stated that conditions were very encouraging for the perpetuation of this remarkable species. Many interesting photographs, including motion pictures, were taken of the animals.

The entire coast lines of Guadalupe and several of the other islands were examined carefully for evidence of the existence of the Guadalupe fur seal but not a single animal was seen. Many inquiries were also made regarding the species but no information was obtained which would indicate that there remained a living representative. It has apparently gone the way of the great auk, Steller's sea cow and several other valuable species; commercial hunters can cut another notch on their gun-stock.

The old fur-seal rookery grounds of Guadalupe were examined carefully. Three of these were found and the lava rocks were polished as smoothly as though they had been deserted but yesterday. An estimate based upon knowledge gained on the Alaska fur-seal rookeries placed the original number of animals on Guadalupe at 100,000. The great killing took place in the early part of the nineteenth century and we must look with remorse upon our ancestors who were so thoughtness as to destroy so valuable an animal. In 1892 and subsequently several expeditions have visited Guadalupe Island in the hope of securing specimens for museum purposes but met with no success. Four incomplete skulls upon which the species was founded and possibly a few disassociated bones (yet unidentified) taken by the last expedition seem to represent all there is of it except regrets.

No southern sea otters were seen by the members of the expedition, but information obtained would indicate that there are still alive a very few of these excessively valuable animals.

The natural history collections made by the expedition were large considering that the islands were visited during the dry season. Specimens in various groups were obtained in approximately the following numbers: birds and mammals, 300; reptiles and amphibians, 1,000; insects, 1,100; land shells, 2,000; marine fossils, many; and miscellaneous fishes, invertebrates and plants.

The representatives of the Mexican government are thoroughly alive to the necessity of conserving the natural resources of their western territory. It is not expected that measures will be adopted which will throttle the proper commercial development of the vast wealth of marine life of those waters but it is expected that the Mexican government will provide laws and regulations which will properly safeguard and conserve those resources so that they may continue for all time valuable assets of that government.

G. DALLAS HANNA
CALIFORNIA ACADEMY OF SCIENCES

AID TO RUSSIAN SCIENTISTS

THE American Committee to Aid Russian Scientists with Scientific Literature made an appeal through SCIENCE (June 23, 1922) to the scientific men and organizations of the United States for gifts of American scientific books, journals and papers to be sent, by aid of the generous cooperation of the American Relief Administration, of which Mr. Herbert Hoover is chairman, to Russia for distribution among Russian universities, scientific organizations and individual workers. In addition to the general appeal through SCIENCE, the committee made a special appeal by letter to various commercial publishing houses, university presses and scientific organizations which publish journals, memoirs, bulletins, etc.

The response to this appeal has been widespread and generous. Up to date nearly nine tons of American scientific books, journals and papers published since January 1, 1915, have been collected and sent to Russia. The contributors include 70 government and state bureaus and experiment stations, 40 universities and colleges and university presses, 23 national and state scientific societies and about 120 private individuals. To make special mention of any contributors among the many who have made such generous response to the appeal may seem unfair, but to reveal the interesting fact that commercial publishing houses, which are presumably not primarily philanthropic, or, at least, immediately benevolent in their aims, have exhibited a generosity not inferior to that shown by the more strictly science-supporting organizations, I want to call attention to such examples of good will as shown by the Yale University Press in its contribution of six copies each of twenty-four first class scientific books published by it, and by Doubleday, Page and Company in submitting a list