voted to working out the details of a plan then made. I have had the cooperation of various institutions and individuals.

As part of this scheme I urged in SCIENCE, N. S., Vol. XXII., No. 549, pp. 553–556, the exploration of Panama before the canal should be completed. This work was well done by the late S. E. Meek and S. F. Hildebrand, under the auspices of the Field Museum and the Smithsonian Institution.

To examine conditions in Colombia I traveled in 1913 from Cartagena up the Magdalena to Girardot, thence to Bogotá in the eastern Cordilleras, thence across the Magdalena valley to Ibagué, across the central Andes to Cartago, up the Cauca valley to Cali, and across the western Andes to Buenaventura on the Pacific, thence up the Pacific slope stream San Juan, across the divide and down the Atlantic slope rivers, Quito and Atrato, to the starting point. My assistant during this trip, Mr. Manuel Gonzales, later visited the Atlantic slopes of the easternmost Andes between Bogotá and Barrigona, and Hermano Apolinar Maria, the efficient director of the Instituto de la Salle of Bogotá, had collections made for me in the Llanos east of Bogotá.

Mr. Hugh McK. Landon and Mr. Carl G. Fisher later enabled Mr. Arthur Henn, now in medical service with the American Expeditionary Forces, and Mr. Charles Wilson, also now in medical service, to explore the Patia and Atrato San Juan Basins of western Colombia, and still later Mr. Henn was enabled by Mr. Landon and Indiana University to explore the western slope of Ecuador, especially the Guayaquil basin.

Various attempts to secure the means to carry the work southward have failed until this spring, when the American Association for the Advancement of Science made me an appropriation of five hundred dollars, the Indiana University made a similar appropriation, and Mr. William G. Irwin, of Columbus, Indiana, sent the university a check to cover the larger part of the estimated expenses of the Peruvian part of the field work. The University of Illinois is providing the expenses of an assistant, Mr. William Ray Allen, who is to devote his time largely to parasites, and Miss Adele Rosa Eigenmann, a medical student in Indiana University, is to go as a volunteer assistant. Submarines being willing, we are to sail June 21 and the expedition is to be known as the Irwin Expedition.

As far as field work may be planned in advance, it is the intention to cross from the Pacific to the Amazon basin in at least three points in Peru:

First, Pacasmayo over Cajamarca to Balzas on the Marañon. The fishes of Pacasmayo are known in part at least through collections made by Osgood, of the Field Museum. Nothing is known of the fauna of the Cajamarca valley and very little of that of the upper Marañon.

Second, Callao over Oroyo, Cerro de Pasco to Huanuco. An attempt will be made to secure the faunas of the Rimac, of the High Andean Lake Hunin, and of the head waters of the Huallaga.

Third, Mollendo, Arequipa, Puno, Cuzco and Rio Urubamba. Attempts will be made to get as complete a representation as possible of the fauna of the Andean Lakes Titicaca and Poopo, and of the Rio Urubamba of the Ucayale basin.

Fourth, etc., some work will be done in Bolivia and Chili, but this will depend largely upon whether additional sums become available.

The expedition as definitely planned ought to give us as fair a notion of the Pacific slope fauna from the desert of northern Chili to Ecuador as we have of the Pacific slope of Ecuador, Colombia and southern Panama, as well as of the fauna immediately east of the crest of the Andes in Peru.

I am indebted to the president and trustees of Indiana University, who have made it my duty to devote myself to the work as outlined for the time needed to complete it.

CARL H. EIGENMANN

SCIENTIFIC EVENTS

SCHOOL FOR OPTICAL MUNITION WORKERS

THE War Industries Board authorizes the announcement that some of the fundamental

items required by the army and navy in war times are technical in nature and would ordinarily not be thought of by the casual observer. Such an item is optical glass, which is used in telescopes and instruments that serve in the direction and control of firing large and small guns and in engineering and surveying operations. The artilleryman without fire-control instruments can accomplish little; the submarine without its periscope is of small value; the airplane without a camera can make no maps of the enemy's country. Therefore, optical glass is very essential in military instruments of different types.

The optical glass problem in this country has been solved and there is now available manufacturing capacity for optical glass sufficient to supply the Army and Navy; but the skilled labor necessary to work up this glass into lenses and prisms, and to assemble these into finished instruments is not adequate. This situation is so serious that unless steps are taken to provide this labor the soldiers and sailors will be only partially equipped with necessary fire-control instruments.

To meet this situation the Ordnance Department of the Army is establishing in Rochester, N. Y., a training school for operatives on precision optics. The school is to be located at the Mechanics Institute, in Rochester, and the large optical manufacturing firms in Rochester are providing instructors and aiding in the installation of the necessary grinding, polishing, and centering apparatus.

Courses in the different branches of this industry will be given and extended over a period of six weeks. A living wage will be paid to those who take these courses. On completion of the course the student will be in a position to enter one of the optical munition factories and be competent to perform certain of the operations required.

Work of this kind on the grinding, polishing, centering, assembly, and inspection of lenses and prisms for optical systems is not heavy, and is well suited for young women who desire to do their share on war-munitions work. Many young women in this country have been knitting and doing such other work as they are able to do to aid our soldiers and sailors, but have desired an opportunity for more responsible work. Not every woman can become a nurse, and there are still great numbers of young women whose energies are not fully utilized and who are not doing their bit toward winning the war. A good opportunity to do this is afforded by the optical training school at Rochester. Work in optical munitions is most urgent and is of highly responsible character. Optical munition workers are well paid and are contributing directly to American success in this war.

In England two training schools of this nature were established some time ago and have proved most successful. As a result, the manufacture of optical munitions in England is well in hand, and many of the responsible positions are held by young women, not formerly employed, who are serving their country most effectively in this capacity.

Details regarding the courses of instruction can be obtained from Dr. Barker, president of the Mechanics Institute, Rochester, N. Y. The largest factories are located in Rochester, Buffalo, and New York, N. Y.; Boston and Southbridge, Mass.; Pittsburgh, Pa., and Dayton, Ohio.

SUMMER WORK AT THE LABORATORIES OF THE BUREAU OF FISHERIES

Work at the Fairport laboratory is proceeding with the least possible interruption this summer. Through the cooperation of the permanent employees of the station arrangements for working quarters and living accommodations for a limited number of investigators have been made. Professors C. B. Wilson, Emmeline Moore, and H. S. Davis continue investigations of aquatic insects, plants, and protozoan parasites of fishes, respectively, in relation to fish culture in ponds.

Dr. Albert Mann, of the Bureau of Plant Industry, has been detailed by the Secretary of Agriculture, at the request of the Secretary of Commerce, for special work on the diatom flora of the Woods Hole region. Portions of the laboratory of the Woods Hole station are in the possession of the Navy Department, but laboratory facilities are available for a limited