of which Dr. Schmidt established the facts of the life history of the Atlantic eels. There can be no doubt, however, that the voyage of 65,000 sea miles, from Copenhagen across the Atlantic, through the Panama Canal, to Tahiti, New Zealand and Australia, thence to the Dutch East Indies and China, across the Indian Ocean to East Africa, round the Cape and thence through the Straits of Gibraltar into the Mediterranean—where Dr. Schmidt was determined to check, by means of his most up-to-date apparatus, the findings of previous expeditions conducted by him in that sea—and finally back to her home port, will prove to have furnished contributions of the utmost importance in the science of the oceans.

THE SOLAR ECLIPSE EXPEDITION OF THE U. S. NAVAL OBSERVATORY

FURTHER details in regard to the expedition to observe the total eclipse of the sun on October 21 by the U. S. Naval Observatory have been given out by the Navy Department. The sun will enter the shadow at 9 o'clock in the morning, and be totally obscured for ninety-three seconds.

The expedition will leave Washington on July 19 and will sail from San Francisco on July 31 on the steamer *Sierra,* arriving at Tutuila, Samoa, on August 13. The following investigators will comprise the party:

Commander C. H. J. Keppler, in administrative charge; Commander Keppler headed the Navy's expedition which observed the solar eclipse of May 9, 1929, from the vicinity of Iloilo, Philippine Islands.

Lieutenant H. C. Kellers, Naval Medical Corps, who was a member of the naval eclipse expedition at Sumatra in 1926 and also of the 1929 expedition. Lieutenant Kellers will be medical officer and in charge of meteorological observations, and, at the request of the Smithsonian Institution, he will collect specimens of the island fauna and flora.

Professor S. A. Mitchell, director of the Leander McCormick Observatory at the University of Virginia, who will conduct spectrographic work.

Kempton Adams, assistant to Professor Mitchell.

Professor Ross W. Marriott, Swarthmore College astronomer, who will carry out coronal photography with a 63-foot camera and make observations to test the Einstein theory.

Dr. Weld Arnold, of the American Geographical Society, assistant to Professor Marriott.

J. J. Johnson, of the California Institute of Technology, who will make photometric observations.

B. P. Sharpless, junior astronomer at the Naval Observatory, who will do coronal photography with a 15-foot camera and other smaller ones.

Dr. T. A. Jaggar, Jr., of the Volcanic Observatory at Hawaii, who will study volcanic and seismic conditions on Niuafou Island.

In addition to this scientific personnel eleven enlisted men of the Navy and Marine Corps will go to assist in construction work and in taking observations. These men, selected from the personnel of the battle fleet, sailed from the Mare Island Navy Yard aboard the mine sweeper *Tanager* on June 25 and will arrive at Samoa about August 9. The enlisted personnel includes a rigger, an optical repair and instrument man, a carpenter to construct large cameras, an expert photographer, two general assistants, two radio operators, two cooks and an interpreter.

About 115 boxes and cases of scientific instruments and equipment have been shipped to Tutuila, besides camp equipage and food supplies sufficient for twenty men for sixty days, and about 8,000 board feet of lumber for the construction of various cameras. The largest of these cameras will have a focal length of sixty-five feet and include a photographic developing room.

Niuafou is a very small volcanic island about 300 miles west southwest of Tutuila. Primitive conditions prevail and only two white men and 1,100 natives live there.

About thirty craters are on the island. Many of them have recently been active, and a major eruption occurred in June, 1929, which destroyed one of the two villages. There are no good anchorages and only one precarious landing place.

THE LIFE SCIENCES BUILDING OF THE UNIVERSITY OF CALIFORNIA

THE work of moving thirteen departments from eleven wood-frame buildings into the new fireproof and earthquake proof Life Sciences Building at the University of California is practically completed. This building was the first to be built on the Berkeley campus under the provisions of the state bond issue of 1926, and cost $2,000,000.

The Life Sciences Building, said to be the largest academic building in America, is five stories in height, has a floor area of 321,000 square feet and provides 60 per cent. more space than the eleven buildings which it replaces, combined.

Among the old buildings which the completion and occupation of the Life Sciences Building will leave empty, are: Agricultural Chemistry, erected in 1908; Anatomy, erected originally as shops for the department of mining; Botany, erected in 1898; Budd Hall of Biochemistry, erected in 1896; California Museum of Vertebrate Zoology, a temporary structure of wood and corrugated iron which has been in service for twenty-one years; East Hall or Zoology Building, erected in 1898; Home Economics, a wooden building erected in 1916; Hygiene and Pathology, erected in 1913; Psychology Building, erected in 1898; Spreckels Physiology Laboratory, erected in 1903.

As soon as possible the work of tearing down the old buildings will be started and their sites will be landscaped or used for other purposes. The site of Budd Hall will be utilized for the Eshleman Memorial Building to house student publications. Aside from these eleven structures, other obsolete buildings which new construction is replacing are: the old student infirmary, replaced by the new $450,000 Cowell Memorial Hospital; the old power house, replaced by a new $400,000 heating plant capable of supplying the augmented needs of the campus.

The Life Sciences Building, in addition to its more than 400 laboratory and office rooms and the Museum of Vertebrate Zoology, has an auditorium seating 500, and a library with a capacity of 90,000 volumes.

HONORARY DEGREES FROM YALE UNIVERSITY

THE citations on the occasion of the conferring of honorary doctorates of science at the recent commencement of Yale University were as follows:

EDWIN GRANT CONKLIN, SC.D.

Professor Phelps: Biologist. Bachelor of Science, Ohio Wesleyan University, 1885. B.A. 1886, M.A. 1889. Ph.D. Johns Hopkins, 1891, and recipient of many honorary degrees. Held the chair of biology at Ohio Wesleyan, and since then has been professor of zoology at Northwestern, University of Pennsylvania, and since 1908 at Princeton. He is a member of many learned societies in Europe and in America. His publications are numerous and important; including "Heredity and Environment," "Mechanism of Evolution," "Direction of Human Evolution," "Biology and Democracy" and other works on heredity and education. The range of his interest is as wide as life itself. He is a great scholar and a great citizen. His investigations have been largely in the fields of cytology, particularly cell division, and of embryology, both descriptive and experimental. In his work on the development of mollusks and ascidians he has followed closely the changes from the single-celled egg through all successive cell divisions, to the formation of the principal organs of the adult body. His work has all been done with great attention to detail, with extraordinary accuracy and with completeness. His papers have always been finished with artistic perfection. He has been willing to spend a fair portion of his time in making his science comprehensible to the general reader. In this he has been most successful, as his popularity as lecturer and author testify.

President Angell: Everywhere recognized as one of the distinguished biologists of your time, you possess two qualities rarely conjoined in eminent scientific men—a genius for sound and exhaustive work of the greatest precision, issuing in fruitful and striking discoveries, combined with a broad and profound outlook on the whole field of biological science, especially in its remoter human implications, about which you write so lucidly that even the interested layman may understand. In recognition of these remarkable gifts, Yale University is proud to confer upon you the degree of Doctor of Science, admitting you to all its rights and privileges.

CHARLES SCHUCHERT, SC.D.

Professor Phelps: One of the most distinguished of the scientists of Yale, in the front rank of paleontologists, and the world's leading authority on paleo-climatology. A youth in Cincinnati, while belonging to the younger generation, he was paradoxically a collector of fossils. He taught paleontology in Kentucky, New York and Minnesota, coming to Yale in 1892. He has done work for the U. S. Geological Survey, for the U. S. National Museum, and in 1904 was appointed at Yale professor of paleontology and historical geology, becoming professor emeritus in 1923, since when he has, if possible, worked harder than ever. He may be seen at an early hour every morning entering the Peabody Museum. He is the author of a standard work, "Historical Geological Paleogeography of North America." His services to Yale University have been and are now invaluable. Although his professional interests are concerned with prehistoric time, he is held in the warmest affection by contemporary men; every one who knows him is his friend.

President Angell: You have long served Yale with fidelity and distinction. She has been proud of your leadership in the field of your special study, a leadership which no one challenges. In token of the high respect in which your scientific work is held and in affectionate remembrance of your long years of devoted service to her interests, Yale University gladly confers upon you the degree of Doctor of Science, admitting you to all its rights and privileges.

SCIENTIFIC NOTES AND NEWS

A TRIBUTE to President W. W. Campbell, who retired from office at the University of California on July 1, was paid by the regents at their last meeting. Prepared by Regent Chester A. Rowell, the following resolution of appreciation was adopted: "On the eve of the retirement of President William Wallace Campbell, after nearly forty years of distinguished service to the University of California, the regents hereby record their appreciation of a great scholar, an outstanding administrator and an inspiring character. After a long and notable career as astronomer and director of Lick Observatory, Dr. Campbell came to the presidency at a time of many and difficult problems. Already eminent in the world of intellect and of knowledge, his high ideals, fine spirit, clear vision, decisive judgment and administrative efficiency as an ex-