with decided commercial possibilities. Besides his work on taro, he had become the acknowledged authority on the native and introduced grasses of the Islands. He published several novelties in this field and had far advanced in his manuscript on local range grasses. His monograph on the seeds of the genus *Pinus* is ready for publication. His various interrupted researches will be completed by his colleagues and shortly appear in print.

He died on November 7, 1937, after a week's illness in Honolulu, his short span of life crowded with achievement. Surviving are his bride, Mrs. Jacqueline Mitchell Whitney; his mother, Mrs. M. Emmons Whitney; two sisters and a brother, all of California.

O. D.

WAIALUA, T. H.

RECENT DEATHS AND MEMORIALS

DR. CHARLES MORTON SMITH, dermatologist and professor emeritus of syphilology at the Harvard Medical School, died on January 8 at the age of seventy years.

SIMEON E. BOOMER, for twenty-five years head of the department of physics and astronomy at the Southern Illinois State Normal University, died on January 3 at the age of sixty-three years. He was a member of the Illinois Education Association and of the Illinois Academy of Science.

DR. ALFRED BARTON RENDLE, for many years keeper of the department of botany in the British Museum, died on January 12 at the age of seventy-two years.

JAMES L. STARKEY, the well-known British archeologist, recently was shot and killed by Arabs while he was driving in his automobile near the village of Beit Jibrin. He was fifty years old.

Industrial and Engineering Chemistry states that to honor the memory of the late Julius A. Nieuwland, and to carry on the scientific research which he inaugurated, the University of Notre Dame has established the Julius A. Nieuwland Memorial Foundation. Its aim is "to continue projects already instituted by the man whose discoveries made possible the manufacture of synthetic rubber on a commercial basis, and to seek other outlets for pure research which, if successful, will redound to the benefit of American industry and workers." The foundation proposes the following immediate objectives: a chair of organic chemistry, $125,000; a visiting professors' endowment, $125,000; five research fellowships, at $25,000 each, $125,000; a lecture foundation endowment, $50,000; a library and research materials fund, $75,000; and a chemistry laboratory building, $500,000. The initial gift of $10,000 came from the Chemical Foundation, Inc., and a number of additional gifts have been received. Gifts are to be held in perpetuity under the administration control of a board of lay trustees.

A MEMORIAL program honoring the life and work of Madame Marie Sklodowska Curie, co-discoverer of radium, was held at Columbia University on January 20. Count George Potocki, ambassador from Poland to the United States, and Dr. Francis Carter Wood, director of the Crocker Research Laboratories, were among the speakers. Dr. John Dyneley Prince, Columbia professor emeritus of east European languages and formerly Minister to Jugoslavia and Denmark, presided.

SCIENTIFIC EVENTS

THE DANISH NON-MAGNETIC RESEARCH SHIP

The New York Herald Tribune gives the following account of the new vessel *Dana,* constructed for the Government of Denmark, which is to be added to the fleet of research ships employed by maritime nations for oceanographic study from which are mapped accurate charts of navigable waters.

It is stated that the British Admiralty has a non-magnetic research ship in construction which will serve as a replacement for the American non-magnetic ship *Carnegie,* of the Carnegie Institution, which was destroyed by an explosion several years ago.

The new Danish vessel, costing 1,000,000 krone (about $440,000), is 147 feet long and is equipped with a large deckhouse containing three laboratories, lounge for the scientific staff, officers' mess and pantry. A teak house on the bridge deck contains chart room and master's quarters. Six cabins are provided for the investigators. The vessel has a double bottom with special fuel tanks to permit two months of uninterrupted sailing.

Driven by a 700-horsepower engine giving her a speed of twelve knots, the ship has been equipped with a special clutch arrangement which will transmit power from the engine shaft to the propeller shaft in such a way that the screw is electrically actuated at very low speeds. In this arrangement the ordinary connection between the engine and propeller is interrupted and the propeller shaft is driven through a reduction gear by an electric motor fed by a large generator coupled to the main engine. Equipment also includes an echo sounder, gyro-compass, wireless-direction finder and radio station, including telegraphy transmitters for short waves and a radio telephone transceiver.

Magnetic charts have been published. The new

British vessel, to be named *Research,* will, it is expected, complete data which would have been gathered if the *Carnegie* had completed her cruise. The *Research* will be of the same beam but slightly longer than the *Carnegie* and will be equipped with similar instruments. No date has as yet been set for her entrance in service.

The German research ship *Meteor* will resume oceanographic and meteorological work on the north Atlantic this month. On this year's voyage, which will last until July, the *Meteor* will cover an area between the Cape Verde and Canary Islands and the West Indies.

THE MT. PALOMAR OBSERVATORY

A DESCRIPTION of the 200-inch telescope in course of construction for the Mt. Palomar Observatory of the California Institute of Technology has been contributed to Science Service by Dr. R. M. Langer, correspondent of the service.

It is expected that the dome of the observatory will be completed by February 5, and it is hoped that the completion and installation of equipment will be possible during the next two years. The external shell of the dome is still to be painted outside and in with aluminum paint, miles of wiring for electrical circuits are still to be put into place. The dome covers about half an acre and is 137 feet in diameter. Above a cylinder seventy feet tall is a slotted hemisphere through which the telescope looks out at any angle with the horizon.

The upper part, including the hemisphere and twenty-seven feet of the cylinder below it, can be rotated to any direction of the compass so that the instrument can see through the slot any part of the sky available in these latitudes. The slot is closed by shutters when the instrument is not in use.

The fixed part of the dome is devoted to offices, laboratories, storage spaces and photography rooms. On top of the thirty-foot outer wall is a circular track on which the movable upper portion of the dome rolls on thirty-two four-wheeled trucks, each carrying four heavy springs wound with inch and a half steel rods.

The room within this moving structure is solely for telescopic observation. There are no appendages or supports to impair the clearance of the telescope tube no matter which way it points. The vault is about ninety feet high from the floor of the observation room to the center of the ceiling. Visitors will not be admitted into this room but will have access during special hours to a gallery walled off and insulated from the main observing room.

The moving portion is built from §-inch steel plate welded together from pieces from one to two hundred square feet each. No bolts or rivets are used and the plates are fitted to the required spherical or cylindrical shape in advance. One such plate weighs about a ton. The moving portion of the dome weighs about one thousand tons.

There are two great arches three feet wide and eight feet deep alongside the shutter opening, and a horizontal plate girder near the bottom of the moving part to keep the cylinder circular. The rigidity of the steel shell is such that only slight additional structural support is needed.

This inside framework was erected first to hold the plates during the welding process and to prevent buckling afterwards. This so-called monocoque type of construction, developed and used with such success in the airplane industry, gives the dome the right to be called streamlined in the sense that it is a modern edifice.

The inner surface of the dome is made up of aluminum-faced steel boxes four inches thick hung from the steel shell. These boxes contain layers of aluminum foil to keep out the heat of the sun so that when night comes the instrument will already be at night temperatures and no precious time will be lost having to wait for a gradual dissipation of heat and change of shape accompanying the cooling process.

Throughout, although in external appearance the classical aspect of a large telescope housing is of necessity retained, every appropriate improvement in modern engineering has been applied. Automatic adjustments will be used wherever possible.

THE CULTURE OF OYSTERS IN FLORIDA

THE Fisheries Service *Bulletin* states that a new center for marine biological research has been acquired by the U. S. Bureau of Fisheries by the transfer to the bureau of the Quarantine Station of the U. S. Public Health Service on Santa Rosa Island, Pensacola, Fla. This laboratory will serve hereafter as headquarters for oyster investigations for Florida and for the eastern Gulf region.

The laboratory is on an island built artificially of ballast rock dumped by the sailing vessels which formerly visited Pensacola, and is separated from Santa Rosa Island proper by a narrow channel. The surface of the island has a layer of topsoil which supports an abundant growth of vegetation. A highway and bridge connect the island with the mainland. The buildings on the island include eight residences, a hospital and a machine shop. The largest residence and the hospital are being converted into laboratories for oyster investigations, while some of the other buildings will serve as quarters for the staff.

When it was learned several months ago that the United States Public Health Service had closed its station and that the property was available for transfer to another Government agency, Dr. Paul S. Galtsoff and Dr. A. E. Hopkins inspected the island and