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

reported that it would be a highly desirable location for the establishment of a central oyster laboratory for the area. The transfer was accordingly requested by the Bureau of Fisheries.

With the completion of special studies on the mortality of oysters in Apalachicola Bay, a temporary laboratory which was set up in 1935 on the shores of Indian Pass, about twenty-eight miles from the city of Apalachicola, has been moved to Pensacola. Indian Pass was found to be unsatisfactory for general studies of oyster culture because of the extreme variations in the salt content of the water and the large amount of silt.

Pensacola Bay provides especially favorable conditions for oyster cultural studies because the water is clear and there are no fresh-water streams in the vicinity so that the salinity may be expected to remain fairly constant. Under the direction of Dr. A. E. Hopkins the reactions of oysters to natural conditions in the Gulf area will be investigated, and various methods of culture will be tested on natural beds and in selected areas where conditions can be controlled. At some future time experimental beds may be established in other bays along the Florida coast for local testing of principles developed at the central laboratory. It is expected that the findings at the Pensacola station will be of practical application along the entire eastern Gulf area.

The new biological station may also be used as headquarters for investigations of other branches of the marine fisheries, including shrimp, shore fishes and the important reef fisheries.

GRANTS FOR RESEARCH ON INFANTILE PARALYSIS

A REPORT by Keith Morgan, national treasurer of the birthday ball celebrations of President Roosevelt that were initiated on behalf of the work of the Georgia Warm Springs Foundation, Inc., for infantile paralysis, is summarized in *The New York Times*. It is stated that the foundation has benefitted to the extent of $1,350,030 since the first birthday ball was held.

Mr. Morgan reported that in 1934 the birthday balls and other benefits yielded $1,003,030, which was given to the Georgia Warm Springs Foundation and was divided by the President into three funds.

A fund of $100,000 was established to stimulate and further meritorious work in the field of infantile paralysis elsewhere than at Warm Springs. Of the 1934 total, $650,000 was given to the Warm Springs Foundation to further its work. A fund of $253,030 was set aside for building, maintenance and contingencies of the foundation.

The Georgia Warm Springs Foundation received none of the receipts of 1935 which were divided on a basis of 70 per cent. remaining in the local communities where it was raised and 30 per cent., amounting to about $241,000, granted to fourteen universities and one research laboratory for poliomyelitis research investigation.

This fund was used to finance work on serums, nasal sprays, experiments with vitamin C and sex hormone feeding and other methods of protecting the public against infantile paralysis. It allocated on recommendations of a medical advisory committee, consisting of Dr. George W. McCoy, of the United States Public Health Service; Dr. Donald Armstrong, of the Metropolitan Life Insurance Company; Dr. Max M. Peet, professor of neurological surgery at the University of Michigan, and Dr. Thomas M. Rivers, of the Rockefeller Institute. The grants were as follows:

Stanford University (Professor E. W. Shultz), $30,000; University of Southern California (Dr. John F. Kessel), $25,000; University of California (Dr. Karl F. Meyer), $10,000; University of Chicago, Department of Surgery (Dr. Paul Harmon), $8,000; University of Chicago (Dr. Edwin H. Lennette), $3,000; Yale University (Dr. John R. Paul and Dr. James D. Trask), $10,000; Harvard University (Dr. W. Lloyd Aycock), $17,800; University of Michigan Medical School (Dr. Max M. Peet), $2,000; the Johns Hopkins University (Dr. Lewis H. Weed), $15,000; Long Island College of Medicine (Dr. Sidney D. Kramer), $20,000; New York University (Dr. William H. Park), $64,000; College of Physicians and Surgeons (Dr. Claus W. Jungeblut), $5,000; Health Research, Inc., Bureau of Laboratories, New York City (Dr. Ralph S. Muckenfuss), $10,000; University of Pennsylvania (Dr. Joseph Stokes, Jr.), $12,500; Western Reserve University (Dr. John A. Toomey), $2,100; University of Wisconsin Medical School (Dr. Paul F. Clark), $6,600.

The fund of $241,000 has now been expended. In New York City 70 per cent. of the total amount for 1936 was distributed among twelve hospitals, orthopedic institutions and other charitable organizations. In 1937 the sum of $51,319 was given to New York City, the national committee received $28,476, and $22,843 was retained for local distribution.

SCIENTIFIC NOTES AND NEWS

THE annual meeting of the British Association for the Advancement of Science will be held at the University of Cambridge from August 17 to 24, under the presidency of Lord Rayleigh. The following sectional presidents have been appointed: Mathematical and Physical Sciences, Dr. C. G. Darwin; Chemistry, Professor C. S. Gibson; Geology, Professor H. H. Swinnerton; Zoology, Dr. S. W. Kemp; Geography, Pro-