

to cultural relations to which the United States may become a party; it will draft or review correspondence with foreign governments, American diplomatic and consular officers and all other correspondence pertaining to these activities; it will collaborate with the Office of Education and other government departments and agencies, the National Committee on Inter-American Intellectual Cooperation, other educational and cultural organizations and institutions and foreign missions in Washington.

The Division of Cultural Relations will function under the general supervision of the Under Secretary of State and in close cooperation with the geographical divisions.

Mr. Ben M. Cherrington has been appointed Chief of the Division of Cultural Relations.

The symbol designation of the division shall be RC.

The chief clerk and administrative assistant will provide the essential clerical assistance and equipment for the new division, within the limits of appropriated funds.

The provisions of this order shall be effective on July 28, 1938, and shall supersede the provisions of any existing order in conflict therewith.

THE MACDONALD OBSERVATORY OF THE UNIVERSITY OF TEXAS

DR. OTTO STRUVE, director of the Yerkes Observatory of the University of Chicago and joint director of the MacDonald Observatory, situated on Mount Locke in the Davis mountains, has reported to the University of Texas that the polishing of the 82-inch mirror for the MacDonald Observatory of the university has been completed and it "can be safely accepted." Dr. Struve wrote:

Tests made on October 15 indicate that the great 82-inch mirror is finished. The surface is a paraboloid of 319.66 inches focal length and the actual figure of the glass does not depart from the mathematical shape by more than about one millionth of an inch. This extraordinary degree of perfection is the outcome of exactly four years of gruelling work of grinding and polishing on the part of C. R. Lundin, optician for the Warner and Swasey Company of Cleveland, Ohio. During the past four years astronomers of the University of Chicago's Yerkes Observatory have made many accurate tests of the mirror. But only now are they fully satisfied that the new mirror will be as perfect as their investigations require.

The mirror will next be coated with a thin layer of highly reflecting aluminum. Before it is shipped to Fort Davis, two small convex mirrors must be completed, but optical experts believe that this should not require more than a few weeks' work. Shipment will be made before the end of December, and astronomical research with the large telescope will be commenced about the first of next year. By next spring all remaining tests should be completely finished.

The 82-inch mirror is at the present time the second largest finished astronomical mirror in the world. It is surpassed only by the 100-inch mirror at the Mount Wilson Observatory, Pasadena, Calif. After the completion of the 200-inch mirror of the California Institute of Tech-

nology, the Texas mirror will rank third in the entire world. It is of interest that the three largest astronomical mirrors are all in the United States. The fourth and the fifth are located in Canada, at the University of Toronto Observatory and the Dominion Observatory in Victoria, B. C. The sixth mirror in size is again in the United States, at the Perkins Observatory of Ohio Wesleyan University. A 76-inch reflector is now under construction for the Radcliffe Observatory in South Africa. The University of Michigan is contemplating the construction of a reflecting telescope of more than 90 inches in diameter. The disc for this mirror has already been cast, but no optical work has been started.

WORK OF THE GRAY HERBARIUM OF HARVARD UNIVERSITY

It is reported in *The Harvard Alumni Bulletin* in an account of the work of the Gray Herbarium that, beginning in early April, 1937, Professor Merritt L. Fernald, '97, director of the herbarium, started field work in Virginia, and made six trips, the last in October, into the coastal plain south of the Rappahannock. This work, made possible through a generous and anonymous gift from a friend of the herbarium, and carried out with the cooperation of Bayard Long, of the Academy of Natural Sciences of Philadelphia, is greatly altering the understanding of the history of life in eastern North America. The fourth paper resulting from the Virginia work, "Local Plants of the Inner Coastal Plain of Southeastern Virginia," with 137 pages, 15 plates and 59 maps, was issued last winter; the fifth paper, of similar extent, is now being issued.

The senior curator, Charles A. Weatherby, has continued his critical studies of tropical American ferns, resulting from his prolonged visit to the European herbaria, where he made detailed notes on, and photographs of, historical type-specimens from which American species were early described. The junior curator, Dr. Lyman B. Smith, has devoted much time and energy to the collection and organization of authentic specimens for distribution to the principal herbaria of the world in the "Plantae Exsiccatae Grayanae."

During last winter and spring, Dr. Eric Hultén, curator of the herbarium of the University of Lund, spent many weeks at the Gray Herbarium, working on his projected flora of Alaska. Dr. Hultén's intensive knowledge of northern floras and the problems of northern biogeography made him a stimulating contributor in the weekly conferences of advanced students. Dr. Harold A. Senn, national research fellow, has completed his detailed study of the genus *Crotalaria*. His extended and important taxonomic monograph and cytological studies will be published as a "Contribution" from the Gray Herbarium. Professor L. O. Gaiser, of McMaster University, whose cytological work on the American genus *Liatis* is throwing