

A. Mediterranean, Adriatic and Black Sea. Cruise, followed by a tour of Morocco, Spain and Portugal, June 29 to October 3. \$675, tourist class, and up.

B. Kayak trip on German rivers, followed by tour of Morocco, Spain and Portugal, June 29 to October 3. \$575, third class; \$700, tourist class.

C. Paris, to Rhine, the Black Forest, the Alps, Italy and Madrid, August 13 to September 21. Considerably less than \$500, tourist class.

Particulars in regard to steamboat and railroad rates for the congresses on physiology, botany, entomology, zoology and neurology are given below. Reservations and further details can be obtained for Excursion C: Professor P. W. Claassen, Cornell University, Ithaca, N. Y. For other excursions and steamship bookings: Professor J. C. Bradley, 322 E. State St., Ithaca, N. Y.

The Fifteenth International Physiological Congress, Leningrad and Moscow, August 8-18. Arrangements within Russia, including numerous excursions, are in the charge of Intourist, Inc. It should be noted that passengers can be booked through to Leningrad and from Moscow for any Atlantic steamer and port (tourist, special or third class) for very much less than it would cost to book to the terminus of the steamer and then to buy rail tickets to and from Russia.

The Sixth International Botanical Congress, Amsterdam, September 2-7. The official steamer eastbound is the *SS. Statendam*, sailing on August 13. No particular steamer has been set aside for return. Botanists wishing to return with the entomological group may join the *Rex* at Nice (Villefranche) on September 13. The rates are the same as from Gibraltar.

The Sixth International Congress of Entomology, Madrid, September 6-12. Several interesting excursions are announced. Those going directly to the congress will sail on the *SS. Roma* on August 24, or the *SS. Rex* on August 31, according to the date finally fixed for the congress. The return will be on the *Rex* on September 16.

The Twelfth International Zoological Congress, Lisbon, September 14-21. The organizing committee announces reduction in French and Portuguese rail rates and in hotel rates. They also announce attractive excursions. Those going directly to and from this congress will sail on the *SS. Rex* on August 31, returning on *SS. Conte di Savoia*, sailing on September 27 from Gibraltar.

The Second International Neurological Congress, London, July 29 to August 2.

THE HAYDEN PLANETARIUM OF THE AMERICAN MUSEUM OF NATURAL HISTORY

THE Hayden Planetarium of the American Museum of Natural History is fast assuming its final form. The exterior of the square brick building at the corner of 81st Street and Central Park West is practically finished. The copper dome—the outer dome—is entirely completed, and has already been so treated that

it has taken on its permanent greenish color. The Park Department of the City of New York is making extensive preparations to beautify the grounds in which the planetarium stands, as well as to provide adjacent parking space for about one hundred cars. New trees and shrubbery are being planted, and a semicircular driveway approach from 81st Street constructed past the entrance to the building.

Work is also progressing very rapidly on the interior of the building. The circular chamber on the first floor, which is to house the Copernican Planetarium, will soon be ready for the instrument which is now receiving the final touches in the workshop of J. W. Fecker in Pittsburgh. This planetarium, which shows the solar system as it would appear if the sun and earth and the other planets were viewed from a distance off in space, is to be installed on the ceiling of this first-floor room. The sun is represented by a lighted globe and the planets and satellites by spheres which revolve on tracks around the sun. It is planned, eventually, to place around the walls of this hall various astronomical murals.

The second-floor hall, with its great 75-foot dome, the very top of which is some forty-seven feet from the floor, was built for the Zeiss Projection Planetarium. This planetarium shows the various aspects and phenomena of the sky as they appear to man as he stands and gazes from his earth out into space. The instrument, itself, which looks like a great dumb-bell pivoting at the center, is in reality an aggregation of over one hundred stereopticon machines which project on the dome overhead the semblance of the night sky. This dome is of perforated stainless steel, a type of material which has proved very satisfactory in improving acoustical properties, which are always a problem in a round room. At the time of writing, this dome is completely finished with the exception of its final coating of white paint.

The silhouette of the New York City sky-line which is cut out of the bottom row of the stainless steel plates (about ten feet above the floor), was copied from photographs taken in Central Park of the entire city sky-line as it is seen from that point. Back of this cut-out silhouette the wall is painted black, so the stars, when they reach the buildings, disappear naturally into the blackness, and likewise into the blackness of the oblique baffles at the side and just below the silhouette. This does away with the embarrassing difficulty of having the stars slide down over the fronts of the buildings in the silhouette and down the side-walls, as they would do if these were of solid material instead of baffles.

It is hoped that the planetarium will be open to the public by the middle of September, although it is possible that later this date may have to be moved to

early October. By the middle of June the second-floor hall can probably be turned over to the Carl Zeiss Company to begin the assembling and installation of the projection instrument which is now crated and in storage in a New York City warehouse. This installation requires at least two months, for it is a delicate job done by special engineers from the Zeiss works in Jena.

One of the most-used entrances to the planetarium will be, no doubt, through the Roosevelt Memorial, that beautiful and stately building which is to form the central unit of the American Museum of Natural History, on Central Park West. Although the Roosevelt Memorial may not be open to the public until November, doorways are now being cut through its walls into the Planetarium, and as soon as both buildings are open, the use of this entrance into the planetarium will greatly facilitate the handling of crowds.

The Planetarium building itself was made possible by a loan of \$650,000 from the Reconstruction Finance Corporation, while the two planetarium instruments were given through the generosity of Charles Hayden, for whom the planetarium is named.

CLYDE FISHER,
Curator of Astronomy

HONORS CONFERRED BY THE FRANKLIN INSTITUTE

At the Medal Day Exercises of The Franklin Institute of the State of Pennsylvania, held in the Hall of the institute, the Parkway at Twentieth Street in Philadelphia, on the afternoon of Wednesday, May 15, seventeen honors which had been awarded during the institute year were presented to their recipients or representatives of them. The medalists were drawn from England as well as from the United States.

The awards were as follows:

Certificate of Merit

To George Kelley, of New York City, New York, "in consideration of the invention of an apparatus for the removing of the dust produced in the drilling of rock and the resulting lessening of the silicosis hazard."

The Edward Longstreth Medals

Founded in 1890 by Edward Longstreth, Philadelphia. To Edmond Bruce, of the Bell Telephone Laboratories of Red Bank, N. J., "in consideration of his design and development of antennae for short-wave communication combining superior efficiency, high directivity, simple construction and effectiveness over a broad range of frequencies. . . ." To Howard D. Colman and Burt A. Peterson, of Rockford, Ill., jointly, "in consideration of the signal advance in the art made by the Barber-Colman Automatic Spooler and of the general excellence of its design." To Peter Davey, of New York City, "in consideration of the successful and useful combination of

well-known principles embodied in the vibroscope and vibrometer and especially of their combination in a portable balancing device." To Karl B. McEachron, of the General Electric Company, Pittsfield, Mass., "in consideration of his careful conduct of a series of closely controlled investigations extending over a period of six years which resulted in the successful development of a process for manufacturing thyrone."

The John Price Wetherill Medals

Founded in 1925 by the family of the late John Price Wetherill. To Dr. Francis F. Lucas, of the Bell Telephone Laboratories, "in consideration of his development of a technique of microscopy and photomicrography by virtue of which objectives of the highest numerical aperture yet developed and visible light and ultra-violet light have been brought to their full theoretical resolving power, and by the use of which photomicrographs of metallurgical and biological specimens superior to any heretofore made are now being produced under his direction." To Robert E. Naumburg, of New York City, "in recognition of an invention which embodies a meritorious utilization of several well-known mechanical and physical principles to produce an apparatus original in its accomplishments and of unquestioned benefit to humanity." To W. H. Shortt, of Exeter, and F. Hope-Jones, of London, jointly, "in consideration of their respective contributions to the invention, development and production of a free pendulum type of clock of remarkable precision which is now used in standard time control in Great Britain and the United States." To Dr. James E. Shneider, of the Drexel Institute, Philadelphia, "in consideration of the design and construction of a portable and easily operated instrument for the investigation of vibrations, which affords simultaneous records of the vibrations in three mutually rectangular directions and in which the inventor displayed much ingenuity." To Dr. Louis Bryant Tuckerman, of the National Bureau of Standards, "in consideration of the fundamental improvements which he has introduced into the optical lever, making it an instrument of hitherto unrealized precision and of his ingenious application of this lever to a strain gauge." To Henry Ellis Warren, of Ashland, Mass., "in consideration of his invention of the telechron motor—a small, limited-power, self-starting, synchronous motor having strong starting torque and synchronous torque characteristics."

The Walton Clark Medal

Established in 1926 by the United Gas Improvement Company of Philadelphia. To Frederick Joseph West, of Manchester, England, "in consideration of his outstanding service to the gas industry in the sphere of improved scientific development of gas works practice and technique and practical gas research as applied particularly to the carbonization of coal in vertical retorts, and for his work in the training and education of engineers and his success in promoting amicable relationships between employer and employed, all of which have been of substantial value to the manufactured gas industry."