congress Dr. H. H. Whetzel and Dr. B. M. Duggar attended the meeting of the British Association at Toronto. A special effort will be made to reach all workers in the plant sciences.

The cooperative interest of the division of biology of the National Research Council and of the American Association for the Advancement of Science has been assured. The organizing committee records with special gratification the courtesy of Cornell University in permitting the use of its facilities for the congress, thus assuring a convenient geographical location and a most favorable physical environment. President Farrand's letter is appended.

CORNELL UNIVERSITY

Office of the President.

Ithaca, N. Y., Sept. 23, 1924.

Professor H. H. Whetzel,
College of Agriculture.

Dear Professor Whetzel:

I have been very much interested in hearing of the plans for the International Congress of Plant Sciences to be held in the summer of 1926 and I need not say that the prospect of having that important meeting in Ithaca is a source of great satisfaction to Cornell University. That our resources will be put entirely at the disposal of the congress goes without saying and the members may be assured of a very warm welcome.

I know of nothing which reacts with more benefit to a university than assemblies of this kind and I venture to hope that visitors from a distance may find something of interest here to justify the choice of place of meeting.

Sincerely yours,

(Signed) LIVINGSTON FARRAND.

The date arranged for the congress has been selected after taking into consideration a variety of circumstances affecting both the place of meeting and the convenience of those attending from far and near.

Organizing Committee:

H. C. COWLES, *Secretary*
B. M. DUGGAR, *Chairman*
H. H. WHETZEL

SCIENTIFIC EVENTS

LOGARITHMETICA BRITANNICA

THE Cambridge University Press is issuing under the auspices of the Biometrical Laboratory, University College, London, "Logarithmetica Britannica," a table of logarithms to twenty decimal places by Alex. J. Thompson, of the General Registrar's Office, Somerset House, London. Part Nine, the first to be published, contains the numbers 90,000 to 100,000. In the prefatory note Professor Karl Pearson writes:

This year is the tercentenary of the first great work of Henry Briggs, the friend and coadjutor of Napier of Merchistoun, and the computer of the first, and still perhaps the most valuable, table of common logarithms. Briggs's *Arithmetica Logarithmica* appeared in 1624, one year before the death of King James. The growth of British mathematics amid the bloody faction and political turmoil of the Stuarts—especially noteworthy in the case of the wizard Laird of Merchistoun—is one of the remarkable facts in the history of science. But this is not the occasion to enter into that matter or indeed into the life of Briggs himself. The purpose of this publication lies in the endeavor to celebrate the tercentenary of his great achievement in a worthy manner. We would, however, willingly have provided a portrait of Briggs could such have been discovered, but inquiries in Cambridge, Oxford, London, of Lord Napier and Ettrick, and of the Yorkshire family of which he was a member have been fruitless, and the reader must be content with a specimen page of the scarce tract of 1617 in which Briggs first drew the notice of the scientific world to the advantages of logarithms to the base 10.

When it came to my knowledge that the French proposed to issue a fourteen figure table and the Germans a fifteen figure table, it seemed to me that it was fitting that the land wherein logarithms were cradled should rise to the occasion and issue a standard table—*Logarithmetica Britannica*—to twenty figures.

In a certain sense the day of logarithmic tables to 4, 5, 6 or 7 figures is past. The users of such tables are either ignorant of the existence of slide-rules and mechanical calculators, or else unfortunately can not afford them. Where much computing has to be done logarithms to a few figures are rarely if ever used. What are used and are often badly needed are logarithmic tables to 10, 15 or 20 figures. They are wanted for work where the more or less customary machines with 9×10 showing 18 and the more unusual and costly machines with 12×12 showing 20 figures on the slide fail to give results of adequate accuracy without great expenditure of labor. In statistical and computating laboratories—especially in cases where new tables have to be prepared for publication—the original Briggs or original Vega are in greater demand than any more contracted logarithmic tables. Yet their high cost, their rarity and uncorrected errors render, as the French and the Germans have recognized, new tables desirable.

THE DEEP SEA OCEANOGRAPHIC EXPEDITION OF THE NEW YORK ZOOLOGICAL SOCIETY[1]

PLANS for the Ninth Expedition of the Department of Tropical Research are well advanced. The *Arcturus* has been officially turned over to William Beebe, director of the forthcoming trip, and the plans for the building of the laboratory, extra staterooms, photographic room, etc., are complete.

The expedition will start early in January, and the first stop will be in the Sargasso Sea. The eastern

[1] From the Bulletin of the New York Zoological Society.

portion of this area will be explored and a month's stay made, at the point of greatest concentration of seaweed, by means of a large buoy anchored in about two miles of water.

The depths beneath this zone will be searched by all modern methods of dredge, trawl, nets, traps and hooks. In this way a more thorough knowledge will be gained of a single limited area in mid-ocean than has heretofore been achieved. The daily and weekly changes in temperatures, salinity and density of the water, and in animal life will be studied and recorded. In effect the ship will function as an island.

The *Arcturus* will have a movable bow-sprit or railed platform which can be lowered to within a few feet of the water, and from which any fish or other creatures floating in the path of the vessel can be harpooned or netted. There will be a runway with a hand-rail around the outside of the hull, which will give access to any part of the length of the ship's side. Large searchlights, crow's nests near the top of the masts and marine glasses will be in constant use to discover any interesting creatures within vision. There will be diving apparatus for work and study at shallow depths on submerged platforms in mid-ocean; numerous aquariums, tanks and wells for live fish; a dark room is to be built for the study of luminescence in deep-sea fishes, and complete equipment will be brought into play to capture forms of deep sea life of which comparatively little is known.

Most of the luminous fishes live at great depths; some of these creatures, however, that do not inhabit the actual abysses are known to rise nearer the surface at night, so nocturnal activities aboard the *Arcturus* will probably be almost equal to those of daylight hours. Dredging, trawling and the use of baited traps after dark may be the means of securing hitherto unknown forms of life.

One of the objects of particular interest will be the attempt to secure specimens of the giant squid, which so far is only known through the remains found in the stomachs of cetaceans.

A powerful wireless set will be installed on the ship and weekly reports, describing the progress of the expedition, will be sent out. Complete records will be kept by means of motion pictures, paintings and photographs, as well as by written descriptions and accounts. Casts and models of the more delicate and perishable animals will be made, and every effort is to be directed toward obtaining information as to the habits of various fishes.

The extent of the Sargasso Sea varies in accordance with wind and current, so that some cruising about will be necessary in order to determine the most favorable spot for locating the floating island. Between the extremes of giant cetaceans and microscopic plankton, there will be enough material for study to occupy every moment of the six months which it is proposed to spend on this deep-sea expedition.

PLANS OF THE ENGINEERING FOUNDATION

THE Engineering Foundation, New York, has appointed 190 leading engineers, representing industry, education and public service in twenty-seven cities throughout the country, to act as local representatives. These engineers will work with the Foundation Board in carrying out a nation-wide plan "for the furtherance of research in science and engineering or for the advancement in any other manner of the profession of engineering and the good of mankind."

The foundation's work will be carried on with $500,000 provided by Ambrose Swasey, of Cleveland, augmented by a recent gift of $50,000 from the estate of Henry R. Towne. The immediate direction of the foundation's affairs will be in the hands of a group of engineers in New York and other cities.

At present the foundation is cooperating with the National Research Council and the Research Committees of the various engineering societies in investigations of engineering problems.

With research committees of the founder societies of civil, mining and metallurgical, mechanical and electrical engineers, the foundation is cooperating in investigations of concrete and reinforced concrete arches, steel columns for buildings and bridges, mining methods, rock drill steels, properties of steam-bearing metals, lubrication and strength of gears.

Besides the foundation's appropriations to aid research, totaling $15,000, contributions from industries and other sources aggregate more than $100,000. Personnel research in industry, education and government will be furthered in 1925 through the personnel research federation.

Representatives announced are affiliated with numerous national organizations in addition to engineering societies, the list including the American Chemical Society, the American Association for the Advancement of Science, the Iron and Steel Institute, Society for Promotion of Engineering Education, American Society for Steel Testing and the American Meteorological Society.

PUBLIC LECTURES AT THE UNIVERSITY OF MINNESOTA

THE zoological museum of the University of Minnesota has announced the program for its fifth annual course of Sunday afternoon lectures. These lectures are being given at 3:30 P. M. in the animal biology building as follows:

January 4. *The winter bird life of Minnesota:* THOS. S. ROBERTS, director of the zoological museum, University