Dr. M. Nishio, professor in the Jikeikai Medical College, and Dr. T. Matsuzaki, professor in the Imperial Girls' Medical College.

IN connection with the second International Congress of Radiology meeting in Stockholm it was announced that the cancer fund, which was begun as a birthday tribute to King Gustav on his seventieth birthday, already amounts to $1,500,000. The fund will be applied to research on the treatment of cancer.

IT is announced that Mrs. Cora Liggett Fowler's will gave $1,500,000 to St. Luke's Hospital, St. Louis, for a clinic and research laboratory.

IN cooperation with the Mexican Department of Agriculture, the Bureau of Entomology of the United States Department of Agriculture is organizing a research laboratory in Mexico City to study the Mexican orange worm. Since Mexico City is at a rather high altitude, it was said, two sublaboratories are being established at Morelos and Cuerravaca, Mex. The laboratories are furnished with complete equipment to study all phases of the Mexican fruit worm, which has been doing damage in the Rio Grande Citrus Belt.

THE War Department has announced that the governor-general of the Philippine Islands, Henry L. Stimson, is planning a campaign to improve the health of the Filipinos, and that an appropriation has been approved for the establishment of a school of hygiene and public health at the University of the Philippines, Manila. The school will be established with a curriculum modeled on that of the best schools of the type in the United States to train the 400 officers of the Philippine Health Service and other physicians for the prevention of disease.

Nature states that on June 14 the Duke of Connaught opened the George Moore botanical laboratories at University College, Southampton. The new buildings have been made possible by a bequest under the will of the late Mr. George Moore, of Southampton, and have been designed by the staff of the college, and particularly Professor S. Mangham, professor of botany, and E. E. Mann, lecturer in civil and mechanical engineering. The dimensions of the building are 120 ft. x 30 ft., and it runs east and west, the north side being glazed so far as possible to afford facilities for microscope work. There are two floors. The ground floor provides thirteen rooms, including a theater, two lecture rooms, library, two laboratories for physiology and a photographic dark room. The upper floor has seven rooms, including a large elementary laboratory, pathological laboratory, laboratory for advanced work in systematic and structural botany and plant biochemistry, an exhibit room and the usual preparation rooms. Plant houses, partly glazed with "Vita glass," have been built along the south front and western end, and the surrounding grounds will be developed as a botanical garden. In drawing up the plans of the building, full provision has been made for increased accommodation for research work.

RUTGERS UNIVERSITY has announced the gift of a valuable and historic collection of herbs from Dr. H. H. Rusby, of the College of Pharmacy of Columbia University. The herbarium was gathered seventy years ago by Dr. P. D. Knieskern, a pioneer collector of native plants of New Jersey.

UNIVERSITY AND EDUCATIONAL NOTES

THE division of bacteriology of the University of California Medical School starts the fall courses in the new quarters in San Francisco, in one of the medical school buildings. The course has heretofore been given in Berkeley as one of the premedical courses, open to both the medical and academic students. The staff will consist of Dr. Karl F. Meyer, *chairman,* and Dr. M. S. Marshall, Dr. H. W. Estill, Miss Bernice Eddie and Miss Evelyn Lewis. The department of bacteriology in the college of letters and science will continue to give instruction at Berkeley. Dr. Meyer will remain chairman of the department and will be associated with Dr. T. D. Beckwith and Dr. A. J. Salle.

DR. JOHN J. TIGERT, commissioner of the U. S. Bureau of Education, has resigned to accept the presidency of the University of Florida.

RECENT promotions to full professorships at the University of Chicago include Dr. W. C. Allee and Dr. C. R. Moore in the department of zoology, Dr. W. J. G. Land in the department of botany, Dr. H. B. Lemon in the department of physics and F. E. Ross in the department of astronomy.

PROFESSOR HERBERT WOODROW, head of the department of psychology in the University of Oklahoma, has been appointed head of the department of psychology at the University of Illinois to succeed Dr. Madison Bentley.

DR. BENJAMIN GRAVE, professor of zoology at Wabash College, has been appointed director of the department of zoology at De Pauw University.

AT Columbia University, Associate Professor G. W. Mullins, of Barnard College, has been promoted to a full professorship of mathematics, and Dr. R. G.

Archibald and Dr. B. O. Koopman have been promoted to assistant professorships of mathematics.

DR. ALBERT E. BULSON, JR., has been appointed head of the department of ophthalmology of the Indiana University School of Medicine, Indianapolis.

DR. JOSIAH BRIDGE, associate professor of geology in the Missouri School of Mines, has been appointed as research professor at Princeton University.

ASSISTANT PROFESSOR J. D. TAMARKIN, of Brown University, has been promoted to a full professorship of mathematics.

DR. ADOLPH FRAENKEL, professor of mathematics at the University of Marburg, has been called to the University of Kiel.

AT the University of London, Dr. Robert Donaldson has been appointed to the Sir William Dunn chair of pathology, tenable at Guy's Hospital Medical School. Dr. S. J. Cowell has been appointed to the university chair of dietetics, tenable at St. Thomas's Hospital Medical School.

DISCUSSION AND CORRESPONDENCE

THE VIABILITY OF ALGAE

SPHAERELLA *Sommerfeldt* is a familiar and widely distributed alga. During moist periods the single-celled plants grow and multiply rapidly, being green and free-swimming. With the evaporation of the water, the motile cells come to rest, change to red and are provided with a thick wall. In this state they may be found closely adhering to the substrate, sometimes so abundantly as to give the appearance of red paint. Cemetery urns, house gutters and even discarded household pans are not unusual places where the plants may be found. In the dry condition, the alga may become detached and blown by the wind to other localities, sometimes distant, there to resume the motile green state with the coming of another supply of water. Presumably these plants are enabled to withstand considerable drying out and for considerable periods of time, but little reliable information bearing on the longevity or viability of the resting cells, especially under adverse or extreme conditions of environment, appears to be available. Undoubtedly the ability to withstand desiccation is one of the factors which has led to the wide distribution of algae such as the one mentioned.

It has been reported[1] that certain living algae have remained viable in samples of soil which had been stored in bottles for varying periods of years, in two cases for as long as seventy years. The samples were apparently partially air dried before being sealed, and at the time of opening the bottles the water-content of the soils was found to vary from 3 to 5 per cent. in some samples, to 10 per cent. in others. In no case, however, was it thought that there was present sufficient water for active vegetative growth during the time of storage. The present writer has followed the history of a collection of Sphaerella pluvialis *Flotow* through a period of nearly seven years; and while the maximum period of viability has not yet been ascertained, the results are sufficiently interesting to warrant recording at this time.

The sample of Sphaerella which has been under observation was collected by Dr. Francis H. Herrick on August 18, 1921, from a pocket of granite in Georgian Bay, Canada. The scrapings consist of a mixture of small twigs, a few partly decayed coniferous needles and some rock fragments. When received, the material was very dry, and in this condition was placed in a glass bottle, corked, and has since been stored for most of the time on a shelf in a moderately illuminated room. Except for opening the bottle occasionally to remove material for testing, the bottle has been kept corked, and no water has been allowed to reach the contents. The material has been tested for viability at least once a year by adding water to a bit of the dried scrapings.

At the start, the time required for the red resting cells to become green and motile did not exceed twenty-four to forty-eight hours. As time has passed, the time for motility to be attained has become appreciably longer, as would be expected. At this writing, a test has just been completed, using both tap and distilled water. Under the conditions of room temperature and moderate light intensity, the time required to "come to life" is now a matter of six to seven days. Once activity has been manifested, multiplication becomes rapid and the culture jar becomes a chamber swarming with active forms; and within a day or two longer the water has a distinctly greenish cast. The motile algae obtained in this way have been under observation for a number of weeks and have been subjected to various tests. So far as can be observed, in spite of nearly seven years of storage, during which time the alga has been without water, there has been no apparent deterioration of the cells, and they behave quite as do freshly collected ones.

The writer hopes to continue at intervals his tests for viability on this culture to ascertain how long the alga will remain viable. It is possible that other dated collections of algae, which normally undergo a resting period, have been or could be tested for viabil-

[1] Bristol, B. Muriel, "On the Retention of Vitality by Algae from Old Stored Soils," *New Phytol.*, 18: 92–107, 1919.