by control of distribution. With the development of adequate facilities for the commercial application of these methods of sterilization it is expected that a broader field than that now authorized will be open for the marketing of Florida host fruits and vegetables.

CONSTRUCTION began in August on the new McMillan Hospital and Oscar Johnson Institute of Ophthalmology and Otolaryngology at Washington University, Saint Louis. Dr. Harvey James Howard, professor of ophthalmology, was recently appointed executive director of the hospital and institute, which will cost, including equipment, about $1,300,000.

PLANS for the immediate construction of a seven-story building by the New York Polyclinic Medical School and Hospital for clinics and pathological laboratories are announced by Henry Staton, secretary of the board of trustees. The clinic building will adjoin the present main hospital on West Fiftieth Street and will cost nearly $1,000,000, including equipment.

Nature reports that the British National Radium Trust, which is constituted as follows: Lord Parmoor (*chairman*), Mr. Arthur Greenwood, Mr. W. Adamson, Sir Ernest Rutherford, Sir John Rose Bradford, Lord Moynihan, Lord Dawson, Lord Mackenzie, Professor A. H. Burgess and Viscount Lee, has made preliminary arrangements in connection with the purchase of radium, with the view of placing it as soon as practicable at the disposal of the expert body, the Radium Commission. The commission has now been set up in accordance with the provisions of the Royal Charter, and is composed as follows: Viscount Lee (*chairman*); Lieutenant-Colonel Smallman, Medical Officer of the Ministry of Health; Mr. H. L. F. Fraser, assistant secretary of the Department of Health for Scotland; Professor Sidney Russ, professor of physics, Middlesex Hospital Medical School; Dr. G. W. C. Kaye, superintendent of the physics department of the National Physical Laboratory; Dr. J. M. W. Morison, lecturer in radiology, University of Edinburgh; Professor G. E. Gask, professor of surgery, University of London; Mr. W. Ernest Miles, surgeon to the Cancer Hospital, Brompton; Dr. Comyns Berkeley, gynecological surgeon to the Middlesex Hospital; Dr. Carlton Oldfield, professor of gynecology, University of Leeds, and Professor A. J. Hall, professor of medicine, University of Sheffield.

AT the last session of the Academy of Colonial Sciences, Dr. Sorel, according to the Paris correspondent of the *Journal* of the American Medical Association, gave an account of the means employed to combat the recent epidemic of yellow fever at Dakar. The life history of Stegomyia being known, the whole crusade against the pest consisted in the destruction of the mosquito, its larvae and its ova. This necessitated the launching of a wide-spread hunting campaign throughout the haunts of the insect and its hatching grounds. This campaign was carried out with scientific precision and thoroughness, with as little inconvenience for the people as possible, so that all showed a willingness to aid in the undertaking. The figures given here reveal something of the magnitude of the operations. The mosquito brigade consisted, during the first period, of twenty-four crews of three mosquito destroyers each, and, during the second period, three new crews of ten mosquito destroyers each were added. All these crews were provided with modern equipment. For a year, 300 scouts were employed for the complete cleansing of the city. More than 60,000 cubic meters of rubbish was thrown into the sea. The total amount of disinfected buildings, from the palace of the government down to the humblest native hut, comprised a surface area of 1,400,000 cubic meters. This disinfection required the use of 18 tons of sulphur, 400 grenades of fuming sulphuric acid and 230 Kg of solution of formaldehyde, and entailed an expenditure of about 500,000 francs ($20,000). Not a single mosquito remained in Dakar. All that is needed is to make the present condition permanent.

The British Medical Journal reports that the council of the Canadian Medical Association has determined to establish a Blackader lectureship in diseases of children as a tangible expression of its appreciation of the services rendered by Dr. A. D. Blackader, who has resigned the editorship of the *Canadian Medical Association Journal*, and as a mark of recognition of his eighty-second birthday. It was agreed that $5,000 should be collected to endow the proposed lectureship, which will commemorate the pioneer and long-lasting interest taken by Dr. Blackader in the field of disease in childhood. The income of this capital will be applied once in every three years to provide an honorarium for the pediatrician chosen to deliver the lecture.

UNIVERSITY AND EDUCATIONAL NOTES

PRINCETON UNIVERSITY receives a bequest of $100,000 by the will of the late Percy Rivington Pyne, of Bernardsville, New Jersey. Mr. Pyne also leaves $25,000 to the New York Zoological Society.

THE legislature has authorized the regents of the University of California to sell the old campus and buildings at Los Angeles with the provision that from the proceeds $125,000 is to be used for the construction of a new wing to the main building at the Citrus Experiment Station, Riverside, and $150,000 for the construction of a building for subtropical horticulture on the new campus of the university at Los Angeles.

The total budget of the College of Agriculture for 1929–30, exclusive of the above items, is $2,394,871.32, an increase of about $155,000 over the present year. Among the special allotments provided is $25,000 for an insectary at the Citrus Experiment Station.

THE University of Alabama School of Medicine announces the following appointments of new teachers for the coming year: Professor and head of the department of anatomy, Dr. Edward A. Boyden, formerly assistant professor of anatomy at Harvard University and professor at the University of Illinois; instructor in histology and embryology, Dr. Thomas E. Hunt, of the University of Chicago; instructor in gross and applied anatomy, Franklin S. DuBois, of the University of Illinois; research associate in anatomy, Dr. Eleanor L. Abrams, of the University of Chicago; instructor in pathology and bacteriology, Allan W. Blair, of the Pathological Institute of the Royal Victoria Hospital, McGill University, Montreal.

DR. PERCY WELLS COBB, of the Nela Park Research Laboratory, Cleveland, Ohio, has accepted an appointment as associate professor of biophysics in the department of ophthalmology at Washington University, Saint Louis. Dr. Cobb is now in Europe attending the International Congress of Ophthalmology in Amsterdam, as is also Dr. Charles Weiss, associate professor of experimental bacteriology in the same department.

DR. FRANCIS BAYARD CARTER, assistant in medicine, Yale University School of Medicine, New Haven, has been appointed head of the department of obstetrics and gynecology at the University of Virginia with rank as associate professor.

DR. JOHN WENDELL BAILEY, head of the department of biology at Mississippi College, has accepted a similar position at the University of Richmond, Virginia. Robert F. Smart has been appointed assistant professor of botany.

AT the University of Cambridge, Mr. F. H. Garner has been appointed university lecturer in agriculture, and Dr. A. S. Watt has been appointed university lecturer (Gurney lecturer) in forestry, both for three years.

M. ROMAN has been appointed professor of geology in the University of Lyons to succeed the late M. Depéret.

DISCUSSION

THE ORIGIN OF CHLOROPHYLL AND ITS RELATIONSHIP TO THE BLOOD PIGMENTS

NOACK has published another interesting paper on the origin of chlorophyll.[1] It is known that the formation of chlorophyll takes place, in most cases, only in the light, while in leaves that are grown and extracted in the dark a chlorophyll-like substance, protochlorophyll,[2] may be obtained. This is present only in very small amounts and exhibits a red fluorescence similar to that of chlorophyll.

Noack has been investigating the formation of chlorophyll from protochlorophyll, which he has obtained pure enough for many experimental purposes. Acid splits off magnesium from protochlorophyll, the same as it does from chlorophyll, to form another pigment which he calls protopheophytin, in analogy to pheophytin. By the introduction of magnesium, protopheophytin can be reconverted into protochlorophyll. Protopheophytin has a beautiful red color and Noack was quite certain that this compound belonged to a class of pigments that were already known. Investigation showed it to be quite similar to the pigment that is found in small amounts in the galls of animals that have been fed on green fodder. This pigment has been called phylloerythrin or bilipurpurin. It has been prepared in crystalline form from the galls of cattle. Preliminary investigations showed this pigment and protopheophytin to have essentially the same chemical constitution, although phylloerythrin produces no ester and has its acid group present in the form of an anhydride. By exercising special care the free acid could be split off by the use of weak alkalies. This acid showed a typical blood porphyrin spectrum and could be transformed into other anhydrous compounds. These compounds were spectroscopically identical with the compounds that have been obtained from protopheophytin. Also, by introducing magnesium into the phylloerythrin a green substance was obtained which had a spectrum almost identical with that of protochlorophyll. Thus, the chlorophyll that is contained in green fodder, when introduced into the animal body, can be transformed into a pigment which conversely may be considered as the first step in the formation of chlorophyll of plants. Having established this fact Noack then endeavored to ascertain the manner in which this transformation takes place. He sought to do this by starting out with chlorophyll, a compound whose identity has been established chemically. By mild reduction in acid solution, he succeeded in converting pure

[1] Kurt Noack, *Forschungen und Fortschriftte*, 5: 100–101, 1929.

[2] See SCIENCE, 68: 569, 1928.