the holder is permitted to work. Applications should be made before May 10. Blanks may be obtained from Dean Edward Ellery, Union College, Schenectady, N. Y.

THE board of the University of Michigan Medical School has accepted two gifts of the fellowship corporation of Battle Creek, one of $20,000 to be paid in $1,500 instalments quarterly for studying problems of metabolism, the other of $2,500 for the investigation of bran as an article of diet. Dr. Louis H. Newburgh is to carry on the work in connection with these grants.

THE United States Shellac Importers' Association has founded a research fellowship in shellac, known as the shellac research bureau, at the Brooklyn Polytechnic Institute. The work will be done under the direction of J. C. Olsen and W. F. Whitmore.

ON the ten-acre plot of the Dominion Experimental Farm in Ottawa the government will erect the first unit of a national laboratory to be devoted to scientific and industrial research work and a central power plant. An appropriation of $750,000 has been made for the first year's work.

THE cornerstone of the new $150,000 testing laboratory of the American Gas Association, at Cleveland, Ohio, was laid on March 15. R. W. Gallagher, chairman of the managing committee of the laboratory, spoke on the steps taken to bring the laboratory to Cleveland and to make it a permanent institution. Since the temporary quarters were established in May, 1925, more than 7,300 appliances have been tested and approved for public use. The new building will make available about 30,000 square feet of space.

AT a meeting of the council of the American Chemical Society at the recent St. Louis meeting applications for granting charters for new sections with headquarters at Bozeman, Mont., Manhattan, Kans., and Pullman, Wash., were approved, all requirements having been met. Dr. Guy, of Atlanta, extended an invitation for the society to hold the spring meeting of 1930 in Atlanta, and the invitation was unanimously accepted. Reference was also made to an invitation from Omaha that the fall meeting of 1930 be held in that city. The invitation was placed on file for consideration at the appropriate time, together with one previously received from Cincinnati.

ACCORDING to *Industrial and Engineering Chemistry* some eight months ago, the British secretary of state for the colonies appointed a committee to investigate the question of the creation of a Colonial Agricultural Scientific and Research Service. This scheme aims at the establishment of a research department which will undertake work, the results of which will be available to the whole Colonial Empire, it being proposed to investigate such special problems as would be regularly submitted by any of the colonies. The committee has now reported and estimates the cost of an agricultural wing at $283,000, and a specialist wing at $171,000; in addition, $68,000 will be required for an advisory council and $98,000 for one central research station. The total estimated cost is thus $620,000. The fact is stressed by the committee that adequate salaries must be paid to the scientists to be employed by this scheme in order to attract distinguished men of proved ability. It is proposed to pay the chief adviser, who must have marked administrative and organizing ability, a salary of about $12,000 per annum. He would be provided with an assistant at about $9,800 per annum. The committee state definitely that, though the scales suggested might at first sight appear to be high, they are "convinced of the absolute necessity of framing them on bold, simple lines."

UNIVERSITY AND EDUCATIONAL NOTES

THE corner-stone of Du Pont hall at Hampton Institute was laid on April 26. The building is the gift of Senator T. Coleman du Pont, of Delaware, who gave $250,000 to the institute, with the provision that a hall of science should be erected with a part of the fund and other sums retained for the upkeep of the work.

THE new medical school building of Howard University was formally opened on April 9 and 10, when there were clinics and demonstrations and all laboratories were open for inspection.

DR. E. V. COWDRY, of the Rockefeller Institute for Medical Research, has been appointed professor of cytology in the department of anatomy of Washington University, St. Louis. The reorganized department includes all the anatomical sciences. Professor Robert J. Terry is chairman of the department and in charge of gross anatomy; Professor Cowdry will direct the microscopical work.

AT Columbia University the following have been promoted to full professorships: Dr. Robert H. Bowen in zoology, Dr. Clifford D. Carpenter and Dr. Arthur W. Thomas in chemistry, Dr. Colin G. Fink in chemical engineering, Dr. Selig Hecht in biochemistry, Dr. Harry L. Parr and Dr. Edward D. Thurston, Jr., in

mechanical engineering and Dr. Albin H. Beyer in civil engineering.

AT Yale University, Dr. H. L. Seward and W. J. Wohlenberg have been promoted to be professors of mechanical engineering, and Dr. G. A. Baitsell to be professor of biology.

AT Vassar College, Associate Professor C. J. Beckwith has been promoted to professor of zoology and Ruth C. MacDuffie has been appointed instructor in zoology and anthropology. Assistant Professor H. M. Allyn has resigned to become academic dean of Mt. Holyoke College.

DR. JACOB C. GEIGER, executive secretary of the Chicago Health Department under the administration of Dr. Herman N. Bundesen, has accepted a position as professor of bacteriology at the George Hooper foundation of the University of California Medical School.

LARS G. ROMELL, of the Swedish Forestry Experiment Station at Stockholm, assumed his duties on April 1 at Cornell University as first incumbent of the Charles Lathrop Pack research professorship for the study of forest soils. Professor Romell will be associated with Professor T. L. Lyon, head of the department of agronomy and soils, and Professor Ralph Hosmer, of the forestry department. Professor Romell's appointment is for three years.

PROFESSOR J. J. R. MACLEOD, associate dean of the faculty of medicine at the University of Toronto, co-sharer of the Nobel prize in 1923 with Dr. F. G. Banting, the discoverer of insulin, will leave Canada in the autumn to become Regius professor of physiology at the University of Aberdeen, in succession to Professor J. A. MacWilliam, who recently resigned.

DISCUSSION AND CORRESPONDENCE

DEAFNESS IN PRE-COLUMBIAN PERU

THE determination of the causes of deafness in an ancient race of people, such as the pre-Columbian Peruvians, is well worth undertaking. The subject has already received some attention. Burton[1] has given an extremely useful survey of the nature of aural exostoses in general, with a brief account of otosclerosis.

The aural exostoses in the external auditory meatus in pre-Columbian crania from Peru are often definite osteomae with a typical ivory-like luster, and extremely hard and dense. These never grow very large, and I do not know that a single osteoma ever closes the auditory canal, but the presence of three tumors *does* close the canal completely, on one and on both sides. In addition to this the walls of the auditory canal itself often become swollen and sclerotic and close the canal, thus producing deafness.

The assignment of strain, brought on by the mastication of tough food, as a cause of the exostosial growths, and possibly the cause also of otosclerosis in general, requires an anthropological survey for confirmation. Infections played a part in deafness, for I have seen cases of pre-Columbian middle ear infections.

Aided by a grant of $300 from the Committee on Scientific Research, American Medical Association, a more exact investigation of the ancient conditions will be undertaken. Dr. L. C. Kinney, of San Diego, will do the roentgenological work on the pre-Columbian crania, and I have at my disposal scores of roentgenograms of unopened mummy-packs.

ROY L. MOODIE

SANTA MONICA, CALIFORNIA

[1] Burton, Frank A., 1927, "Some Considerations on Prehistoric Aural, Nasal, Sinus Pathology and Surgery." Santa Fe, N. M., pp. 1–38, Figures 1–17.

PRODUCTION OF POTATO TUBER NECROSIS

IN the course of investigations, chiefly histological and cytological, carried on during 1926–27 at the University of Wisconsin, but under the auspices of the Vermont Experiment Station, experiments were conducted by the writer to throw more light on the real relationship existing between leafroll and net necrosis of the Irish potato. Through the use of cages to exclude undesirable insects, potato plants were grown in the field both from healthy and from leafroll tubers and aphids of the species, *Myzus Persicae,* were colonized on leafroll vines under cage and transferred at intervals to the foliage of healthy vines also under cage. Some four or five such transfers were made, each transfer involving the introduction of 25–50 aphids into each of five cages where they were allowed to migrate from the detached leafroll leaves to the foliage of the enclosed healthy plants. Two cages of healthy plants from the same lot of tubers were kept as checks. One cage contained leafroll plants on which aphids were colonized for increase and distribution.

When the harvested tubers from these cages were first examined on October 25, very interesting results were found. Necrosis, of the phloem necrosis type, was found in abundance, even at this early date, in all the treated cages. In one of the five cages practically 100 per cent. of the tubers showed the characteristic discolorations. The necrosis was in early stages of development, that is, not extending far from the stem end of the tubers and not showing as extreme necrotic discolorations as are found in tubers later on in the storage period. Microscopic study of stained sections