cently spent three weeks studying evidences of paleopathology in the principal paleontological museums of the eastern cities. The result is a number of observations which it is hoped will be of assistance in an understanding of ancient diseases. It was found, for instance, that the coalescence of the vertebræ of the huge dinosaurs is caused by the lesions of *Spondylitis deformans,* a common result of disease among Pleistocene vertebrates, in the ancient Egyptians and in modern man, and not previously known to occur before the Miocene. A large, fractured humerus of a Cretaceous dinosaur presents an interesting subperiosteal abscess, which is of considerable interest in connection with the study of comminuted fractures of limb bones in certain victims of the recent war.

MISS MAUD MARGARET GIBSON has placed in the hands of the Royal Society of Medicine a sum of money sufficient to provide a scholarship of the yearly value of about £250, in memory of her father, the late Mr. William Gibson of Melbourne, Australia. The scholarship will be awarded from time to time to qualified medical women who are subjects of the British Empire. It is tenable for a period of two years, but may in special circumstances be extended to a third year.

UNIVERSITY AND EDUCATIONAL NEWS

THE trustees of Wesleyan University have decided to start a campaign to secure an additional endowment of $2,000,000 for the university. The trustees have voted to make substantial increases in salaries of members of the faculty.

QUEEN'S UNIVERSITY, Kingston, Ontario, reports that an additional endowment of $1,000,000 has been received for the general purposes of the university. It is proposed that several more full-time professors will be secured and the departments of physiology, bacteriology and public health will be developed. A fund of $200,000 is also available to be expended in the reconstruction of the hospital.

AT the University of Virginia, the school of analytical and industrial chemistry and the school of chemistry have been merged in one. Its affairs will be managed by a committee of the chemical faculty. The following new appointments are announced: Dr. Graham Edgar, of the National Research Council, with the rank of professor, and Mr. J. H. Yoe, of the Chemical Warfare Service, with the rank of adjunct professor. The staff of assistants has been enlarged considerably. Five new research fellowships have been established by the board of visitors. Applications for these should be filed with Dr. George L. Carter, secretary of the chemical faculty.

PROFESSOR EDWARD C. SCHNEIDER (Yale, '01), of Colorado College, has been elected head of the department of biology at Wesleyan University.

DR. M. G. GABA, of Cornell University, has been appointed associate professor of mathematics at the University of Nebraska.

COLONEL WILLIAM DARRACH has been appointed dean of the College of Physicians and Surgeons by the trustees of Columbia University. He succeeds Dr. Samuel W. Lambert, whose resignation takes effect on July 1. Appointments and promotions at the college are announced as follows: William E. Studdiford, M.D., professor of obstetrics and gynecology, to succeed the late Dr. Edwin B. Cragin; Allen O. Whipple, M.D., now associate in surgery, to be assistant professor of pathology; Benjamin P. Farrell, instructor in orthopedic surgery, to be assistant professor in the same branch; Louis Cassamajor, associate professor of neurology, to be professor of neurology; Oliver S. Strong, Ph.D., assistant professor of neurology, to be associate professor of neurology.

DISCUSSION AND CORRESPONDENCE

AN IMMUNE VARIETY OF SUGAR CANE

SEVERAL years ago a serious disease of sugar cane appeared in Porto Rico. Owing to certain characters exhibited by this disease it was designated as the mottling disease of sugar cane (sometimes called mosaic). It may

be identical with the yellow stripe disease prevalent in Java and some other cane countries. At the request of the Porto Rican authorities the U. S. Department of Agriculture entered into cooperation with the insular and federal stations on the island, and Professor F. S. Earle, of the Office of Sugar-Plant Investigations, Bureau of Plant Industry, was detailed to take up the cooperative work in Porto Rico in August, 1918.

Among other lines of investigation Professor Earle studied very closely the sugar cane varieties growing in Porto Rico. He noted that among about twenty varieties growing at the federal station at Mayaguez there was one Japanese variety (Kavangire) showed no sign of the mottling disease, while all the other varieties there were more or less seriously affected. In order to carry this study further Professor Earle, through the kind cooperation of Russell & Co., inaugurated an experiment with ninety varieties of cane on their Santa Rita Estate. These varieties were planted and grown under the personal supervision of Russell & Co.'s cane planting expert, Mr. H. Bourne of Barbados. Single rows of cane were planted of the varieties to be tested, and every third row was planted with diseased seed of the Rayada variety (ribbon cane). In this way each variety was uniformly and completely exposed to the infection.

The first planting of the ninety varieties was made on October 1, 1918. Two and one half months later Mr. Bourne reported that all of the varieties except the Kavangire showed the mottling disease, the infection running from 9 per cent. to 96 per cent. This variety has remained free from disease to date, March, 1919, and shows every indication thus far of being immune to the mottling disease.

On January 29 of this year Professor Earle made a careful study of the experiment and found about half of the other varieties in this experiment showing an infection of fully 100 per cent., and in only two cases was it as low as 50 per cent. The degree of infection, however, was decidedly marked in different varieties, a few of them showing the disease but slightly, indicating that they are resistant though not immune, with the exception of the one variety Kavangire which appears to be entirely immune. In three or four of the least infected kinds close observation is necessary to detect the disease, the only evidence being very faint "watered silk" discolorations. Professor Earle has observed the Kavangire fully matured on the federal station at Mayaguez and in other localities, and in all of the localities in Porto Rico where it is growing it is entirely free from the mottling disease whether the plants are young shoots or mature canes.

The Kavangire cane is tall-growing and very slender, while the Porto Rican planter prefers a thick cane, because it appears to be a better yielder and is handled at less expense. However, the yield of the Kavangire under some conditions at least compares favorably with other varieties, and very greatly exceeding them in some cases. Director May reports a yield at the rate of 70 tons per acre on the Mayaguez plot. No analyses of the Kavangire variety, as grown in Porto Rico, are available, but according to some reports from other countries where it is grown it varies from 14.38 per cent. sucrose to 16.85 per cent. sucrose, while its purity coefficient varies from 84.6 to 89.67.

The Kavangire cane was imported into Porto Rico from the Argentine a few years ago by Mr. May, director of the Federal Experiment Station at Mayaguez. In Argentine it has been planted quite largely on a commercial scale indicating that it is satisfactory from the standpoint of sugar production. It requires a long season for maturity, and for this reason has not been recommended for general planting in Argentine. The sugar per acre is the crucial test, and in this respect the Kavangire generally stands near the top, so far as available records indicate.

After reviewing the available literature in regard to Kavangire Professor Earle raises the practical question as to whether or not Kavangire can be successfully used for general planting in Porto Rico. If it can and it retains its immune characteristic the question of combating the mottling disease is solved.

This question of the practicability of using the Kavangire is now under consideration by Professor Earle and his co-workers in Porto Rico, and at the same time further observations will be made upon the immunity of this variety to the mottling disease. Unfortunately, the available supply of plant cane of Kavangire in Porto Rico is limited. It will take a number of years to propagate enough of this variety to make it available for general planting. In the meantime its adaptability to the Porto Rican climatic and labor conditions will be determined. It appears to be a strong ratooner and to have considerable resistance to root disease, borer and stem rot. If these indications prove true Kavangire should enable the grower to keep his fields in profitable production longer without replanting than is possible with the varieties now in general use. This will reduce the cost of production, even though the habit of growth and quality of the cane should make it a somewhat more expensive variety to handle and to mill.

C. O. Townsend
U. S. Department of Agriculture

THE USE OF POISON GAS

To the Editor of Science: In regard to the article on "Poison Gases" by Major West, in your issue of May 2, 1919, the statement on p. 415 that at the Hague Conference of 1899 "the governments represented—and all the warring powers of the present great conflict were represented—pledged themselves not to use any projectiles whose only object was to give out suffocating or poisonous gases" is not correct. Twenty-six nations voted on the question, all but two being in the affirmative. The dissenting two were Great Britain and the United States. At the conference of 1907, Great Britain gave way and signed, but the United States refused. The reasons for the action of the United States are set forth clearly and, in my opinion, unanswerably by Admiral Mahan, the leader of the U. S. delegation, in a formal statement that he made on the occasion.

Henry Leffmann
Philadelphia, Pa.

SCIENTIFIC BOOKS

RENAISSANCE ANATOMY

Among the interesting papers published in "Studies in the History and Method of Science," edited by Charles Singer, and printed in Oxford by the Clarendon Press, 1917, is an important contribution of fundamental interest to students of the history of anatomy. The entire series of essays has been previously reviewed by Dr. Charles Dana[1] and we may confine our attention to Dr. Singer's "Study in Early Renaissance Anatomy," which occupies 84 pages of the book.

This study is subdivided:

I. Anatomy in the Fourteenth and Fifteenth Centuries.
II. Bolognese Works on Anatomy.
III. Hieronymo Manfredi, Professor at Bologna, 1463–93.
IV. The Manuscript *Anatomy* of Manfredi.
V. Translation of selected Passages from the Anothomia, with Commentary.
(*a*) The Brain, Cranial Nerves, etc.
(*b*) The Eye.
(*c*) The Heart.
Italian Text of the Anothomia.

There is little that is new in the first two sections, although there is much interesting material, accompanied by a wealth of bibliographic details which will save the worker in anatomical history much time and labor. The discussion is interesting and instructive; the illustrations, which are well reproduced, having been chosen from the works of such early writers as Henri de Mondeville (1314), Bartholomæus Anglicus (1482), Guy de Chauliac (1430?), Mondina (1493), Ketham (1495) and many other writers. Many of these illustrations have been previously given by Locy,[2] Sudhoff,[3] Choulant[4] and others.

[1] *Annals of Medical History*, I., no. 4, 1917 (issued February, 1919).

[2] "Anatomical Illustrations before Vesalius," *Jour. Morphol.*, 1911, XXII., no. 4.

[3] "Ein Beitrag zur Geschichte der Anatomie im Mittelalter," Leipzig, 1908.

[4] "Geschichte der anatomischen Abbildungen," Leipzig, 1852.