

opened a high-pressure laboratory, which is the first of its kind in Soviet Russia. It is devoted to the investigation and testing of materials and insulators and the transmission of energy. The necessary transformers have been ordered from Germany.

THE laboratories of the Banting and Best Chair of Medical Research at the University of Toronto have been moved from the medical building to the pathologic department.

THROUGH the interest of Senator James W. Wadsworth, Jr., and the cooperation of Colonel B. D. Foulois, commanding officer, Mitchell Field, State Entomologist E. P. Felt, of the New York State Museum, has arranged for systematic collection over Long Island and adjacent territory at various altitudes, with a specially devised insect trap attached to the wing of an airplane. Preliminary work has resulted in capturing two specimens at an altitude of 3,000 feet, and it is expected that considerable numbers will be found even higher in the air. It is hoped that this investigation may develop facts of importance in controlling injurious pests and explain insect movements in different sections of the world.

ACCORDING to the *Journal* of the American Medical Association, the American Association for Medical Progress has completed a survey of nearly all medical colleges and research institutions in the United States with regard to inspection by responsible visitors and the care of laboratory animals. It was found that responsible visitors are welcome at all times at these institutions. Some laboratory directors extend special invitations to officers of humane societies in order that they may observe the conditions under which animals are used for experimental purposes. All these institutions have adopted a set of rules governing the use and care of animals, which provides, among other things required, that operations be approved by the laboratory director who alone can make exceptions to the use of anesthetics, and then only when anesthesia would defeat the object of the experiment. Attached to the report of this survey is the set of rules observed by medical schools and research institutions. They require humane treatment of animals, and the return of vagrant animals to their homes when claimed and identified.

THE National Park Service has set aside an area about seven miles square in the high Sierras of Yosemite National Park as a wild life reservation. The fifty square miles are in what is known as the Hudson Arctic Alpine life zone, the elevation ranging from 9,000 to 12,000 feet. Thus far it has not been much visited by man and lies virtually in its natural state, wooded with lodge pole pine and inhabited by snowshoe rabbits, marten, fisher and other kinds of fur bearers that exist in frigid climates. The area

has abundant food and water and has a rich and varied flora.

L. S. LEAKEY, member of the Cutler Dinosaur Expedition to Tanganyika, in a lecture delivered before the Kenya and Uganda Natural History Society at Nairobi on the work of the expedition in the Lindi district said that it was expected that the work would continue for five years in the hope of finding skeletons of the Dinosaur, particularly skulls, in the upper reaches of the ancient river. He announced that he was also making investigation on the Stone Age deposits of Kenya.

A COURSE designed to train professional builders with broad knowledge in both business and engineering fields has been established at the Massachusetts Institute of Technology and will start in February. The course was founded by Louis J. Horowitz, president of the Thompson-Starrett Company, of New York, through a grant from the Louis J. and Mary E. Horowitz Foundation. Professor Ross F. Tucker will give the course.

ACCORDING to the *British Medical Journal* new departments for medical entomology and biochemistry have been added to the research division of the South African Institute for Medical Research at Johannesburg, and the department of bacteriology has been extended by the establishment of a branch for plague research. Field investigations into plague have also been instituted in a camp in the Orange Free State Province. A survey of the mosquito and molluscan carriers of malaria and bilharzia respectively has been commenced. Sir Spencer Lister became director of the institute last August, when Dr. W. Watkins-Pitchford retired through ill health.

THE *Journal* of the American Medical Association states that the Paris court of appeals recently confirmed the sentence imposed on a man who made shorthand copies of lectures delivered by various professors in the medical faculty and the faculty of pharmacy and offered them for sale to the students. The deans of the two faculties brought the suit against him, but the court required the ten professors themselves to make the definite charge; each was awarded 100 francs damages, the amount asked.

UNIVERSITY AND EDUCATIONAL NOTES

DURING the past year \$2,208,000 have been pledged towards the \$20,000,000 fund being raised at Princeton University. This brings the total contributions to \$4,587,000.

JULIUS GOLDMAN, of the New York banking firm of Goldman, Sachs and Company, has given \$10,000 to the Johns Hopkins University for research in geology.

THE University of Tennessee formally dedicated its new anatomy building on December 16. At a dedicatory dinner at the Hotel Peabody in the evening the speakers were Dr. William D. Haggard, Nashville, past president of the American Medical Association, and Dr. William A. Evans, professor of public health, Northwestern University Medical School, Chicago.

DR. E. J. KRAUS, professor of applied botany at the University of Wisconsin, has accepted an appointment at the University of Chicago.

MARIE FARNSWORTH has resigned her position as research chemist for the U. S. Bureau of Mines to accept a position on the staff of the department of chemistry of the Washington Square College of New York University.

H. DARWIN KIRCHMAN, instructor of chemistry at the University of Hawaii, has been appointed instructor in chemistry at the University of California, Southern Branch.

H. MUNRO FOX, fellow of Gonville and Caius, has been appointed to the Mason chair of zoology at the University of Birmingham.

DR. R. R. MARETT has been appointed to the Frazer lectureship in anthropology at the University of Cambridge.

DISCUSSION AND CORRESPONDENCE

BOVERI ON CANCER

IN the number of *SCIENCE* for November 19, 1926, page 499, there is a letter from Professor Maynard M. Metcalf accusing American physicians of gross negligence because they are not acquainted with a paper of Boveri's containing some suggestions on the genesis of cancer. In the *Journal* of the American Medical Association, April 11, 1925, he printed a similar protest. He complains rather plaintively that two past-presidents of the American Medical Association, thirty professors in medical schools, several prominent surgeons and the head of an important American institution for cancer research have never heard of Boveri's work. This is indeed a sad situation, but one which should not cause too much depression in the zoological world. No one would expect past-presidents of the American Medical Association, able clinicians as they may be, to burden their minds with a theory like Boveri's. They have more important things to think of, and as for surgeons and professors in medical schools, it is far better that they should never have heard of it. It may, however, cheer Professor Metcalf to know that annually more than a thousand medical students who use Delafeld and Prudden's "Text-book of Pathology" have found Boveri's theory mentioned—that is, if they read the

text-book at all. And even in Professor Metcalf's own institution, Johns Hopkins, I know of a number of men who have read Boveri's brochure and relegated it to their shelves.

But if Professor Metcalf will again carefully read Boveri's paper, as I have just done, he will see that his master by no means makes the dogmatic statement quoted in the letter to *SCIENCE* that "studies of double fertilized sea-urchin eggs (have) established the probability that human and other animal cancer is essentially a distortion of the numerical relations of the chromosomes in the cells." Boveri himself says that the essential part of his hypothesis, and he is very careful to stress the fact that it is only hypothesis, is not abnormal mitosis, but a certain "abnormal chromosome composition (Bestand)," which may result from abnormal mitosis, and he acknowledges that it is entirely hypothetical whether, should such pathological chromosomal alterations occur, they could cause unrestricted growth of the cells affected. Boveri also frankly states that it is quite impossible with present methods to demonstrate such conditions in the nucleus as he postulates, and he confesses that he has experimented on the problem but failed to obtain any confirmation of his opinion. In other words, Boveri's hypothesis is one of those completely sterile suggestions which, however interesting they may be philosophically, permit as yet of no direct experimental approach.

I entirely agree with Professor Metcalf's general contention that many of the medical profession, including myself, are exceedingly ignorant of the finer aspects of cytology, but with full realization of the situation I have for twelve years been trying in vain to find a zoologist who would advise us how to attack the cancer problem from Boveri's point of view. All real students of the problem will, I am sure, join me in the hope of light from our zoological colleagues, and if Professor Metcalf's letters stimulate his brethren in that field to help us, they have accomplished a great purpose.

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THE rather categorically academic assertions of Professor Maynard Mayo Metcalf as to our (the American physician) ignorance of Boveri's contribution to the biology and cytology of cancer, prompt a reply. All students of the biologic sciences, including those who happen to be physicians, are no doubt aware of the contribution by Boveri, which appeared some years ago and is largely lost and forgotten in the mass of later contributions to our knowledge (or perhaps lack of knowledge) of cancer. Boveri