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 Delafield 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 chromosomic 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

called especial attention to the deviations from the normal in the mitotic changes in the cancer tissue cells. But Dr. Metcalf's statement, "Boveri's studies of double fertilized sea-urchin eggs established the probability that human and other animal cancer is essentially a distortion of the numerical relations of the chromosomes in the cell," must not be construed as an opinion by Boveri himself. Boveri merely called attention to the peculiar chromosome figures in cancer tissue, an observation verified by every *student* of cancer since then. Particularly striking are these figures in the sarcomas of the young.

Anyway, the important thing is, what is the cause of cancer and how may it be controlled or prevented? It is rather deplorable that Professor Metcalf's search, "extending over fifteen years," has not brought to light one American physician who knew of Boveri's researches.

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THE AVOCADO AND VITAMINS

IN a recent pamphlet entitled "Calmin Avocado Orchards," distributed by the Calmin Mortgage Corporation of Fallbrook, California, it is stated, in regard to the avocado (page 15) that "Vitamin C is also found in liberal quantities."

In a series of twelve guinea pigs, of various weights, fed in our laboratory on a diet of avocado mash, oats and water, all the animals but two developed some of the typical lesions of scurvy within twenty-six days. All the animals died toward the end of the third week, or in the fourth week, of the disease, save the two dying at twelve and fifteen days of bronchopneumonia, these two showing no evidence of scurvy. The average daily intake of avocado mash varied between three to six gm. for one hundred gm. of initial body weight. No relation was noted between the amount taken and the severity of the lesions. Four control animals, fed on oats and water, also developed the signs and lesions of scurvy during the third and fourth week, at about the time scurvy usually appears in laboratory animals.

Santos (*Amer. Jour. Phys.*, 1922, 59: 310–334) found the avocado, a fruit that is eaten raw, to be relatively high in vitamin B. He also endeavored to determine the vitamin C content, realizing the practical value of this vitamin in foods that are palatable in the raw state, but he was unable to get the guinea pigs to eat the fruit.

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THE VELOCITY OF GRAVITATION

IN SCIENCE for November 26 on page 525 a method is described for measuring the velocity of propagation of gravitational potential. I wish to point out that this method can not give the result desired because the apparent motion of the sun in its diurnal arc is due to the rotation of the earth. The experiment proposes to find the local apparent time of the maximum vertical component of the sun's gravitational attraction as measured on a delicate balance. But since this attraction is a continuous process (as is the emission of radiation from the sun) the maximum vertical component must necessarily occur when the sun is on the meridian, that is, at local apparent noon, whatever the velocity of gravitation may be.

Although the speed of light is finite, the real sun is of course directly on the meridian when we see it there, and would be there no matter what the speed of light might be.

CARL T. CHASE

"METABOLOGY"

DR. MAX KAHN has added three words to the vocabulary of metabolism which have since been incorporated in the standard medical dictionaries. They are: "eubolism," "dysbolism," "pathobolism" (SCIENCE, June 20, 1922).

The growth and study of metabolism has progressed so much that I believe the vocabulary can be increased by the addition of the term *"metabology,"* or the study of metabolic processes in the organism. This word does not appear in current medical dictionaries.

MORRIS H. KAHN

SCIENTIFIC BOOKS

Aeronautical Meteorology. By WILLIS RAY GREGG, A.B., meteorologist, U. S. Weather Bureau, fellow American Meteorological Society, fellow Royal Meteorological Society, Ronald Aeronautic Library, C. de F. Chandler, Editor. The Ronald Press, New York, 144 pages, XI plates, 33 figures. Price, $2.50.

THE editor of this library series remarks that we need progressive literature of aerial navigation, technical information for designers, engineers, pilots and the growing army of students. This is all true, but at the present time much more is written about the machine than about the medium in which the machine is to function; that is to say, study of the air itself is subordinated to study of the airplane. Perhaps this is proper; but the reviewer for one is glad to