

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.

ALBERT SCHNEIDER

NORTH PACIFIC COLLEGE OF OREGON,  
PORTLAND, OREGON

### 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.

LLOYD B. DICKEY

DIVISION OF PEDIATRICS,  
STANFORD MEDICAL SCHOOL,  
SAN FRANCISCO, CALIFORNIA

### 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