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BOOKS

BOOKS—the protectors of civilization's stores of accumulated knowledge—are also the torch-bearers leading the procession of research toward new scientific frontiers. In the pages of this week's SCIENCE NEWS LETTER, readers will find listed the latest offerings of those who are in the forefront of the march of research. Some are already published; others are still on the presses. The issue will serve you well as a comprehensive bibliography of current works of science.

GENETICS

Rats Lose Cancer Tendency, Rabbits Gain Extra Ribs

CANCER in rats, to which some strains appear to be highly susceptible and to inherit their susceptibility, has been all but suppressed in their descendants by carefully selecting the more resistant individuals and breeding them, it was reported before the meeting of the Genetics Society of America, at Woods Hole, Mass., by a three-man research team from the University of Wisconsin. The group consisted of Prof. Michael F. Guyer and Drs. F. E. Mohs and P. E. Claus.

The original rat strain proved susceptible to transplantable cancer in over 84 per cent. of its individuals. After the course of breeding, the "takes" amounted to only six per cent in the eighth to thirteenth generations. Further experiments are planned, to test the relative resistance of the two strains to other types of cancer and to cancer-causing chemicals.

Adam lost a rib in the process of getting a mate, Genesis tells us; but having selected mates with the proper Mendelian set-up has given extra ribs to rabbits in the laboratories at Brown University, Dr. E. L. Green reported. Ordinary rabbits have twelve ribs apiece, but one family of Dr. Green's rabbits have thirteen ribs apiece as a regular hereditary trait. Extra joints in the backbone seem to go with extra ribs: the thirteen-ribbed rabbits have seven lumbar vertebrae, the twelve-ribbed ones only six.

Corn is very changeable, unstable stuff, genetically speaking. The importance of this fact was discussed by Dr. H. C. Eyster, of the Carnegie Institution of Washington. One varying tendency alone, a mutation to albino leaves green only at the tips, he observed in more than one per cent of the seedlings in a Pennsylvania field. In an earlier study, 40 spontaneous gene variations were noted in one commercial strain of corn. In breeding corn, Dr. Eyster pointed out, it is important to keep close check to make sure which changes are due to the breeder's own efforts and which are arising spontaneously.

X-rays cause changes in the hereditary makeup of organisms, but their effect seems to be indirect rather than direct. Dr. M. Demerec of the Carnegie Institution of Washington told a round-table meeting of the Society. As a result of earlier experiments, a Russian researcher had come to the conclusion that the changes were due to direct hits of electrons upon genes.

In Dr. Demerec's experiments, different strains of the little insect Drosophila were subjected to similar X-ray treatments through a range of five different intensities. One strain responded almost twice as readily as another to this treatment, in the number of mutations obtained. This, in Dr. Demerec's interpretations, indicates the existence of a biological factor that influences the effect of X-rays on heredity.

Science News Letter, October 23, 1937

RADIO

October 26, 5:30 p. m., E.S.T.

ANCIENT CHINA—Carl W. Bishop of the Freer Gallery of Art.

November 2, 5:30 p. m., E.S.T.

LIVING UNDER THE SEA—Capt. E. W. Brown of the U. S. Naval Medical School.

In the Science Service series of radio discussions led by Watson Davis, Director, over the Columbia Broadcasting System.