

a chemist. A small dose of this compound kills instantly the fish that come in contact with it. Lately three English investigators, Tattersfield, Gunningham, and Morris, have showed that this drug can also be used to kill harmful insects. And here the plants of this group, which are still under cultivations, may play an important part in the warfare of man against insect.

PROMISES UPSET IN HEREDITY THEORY

Modern theories of heredity may be refuted by experiments now being made at Stanford University by Professor L.L. Burlingame of the Department of Biology on a plant known as the Clarkia. On first investigation this plant appeared to be contrary to the accepted laws of heredity; however, experiments are being continued to prove that that is merely an explainable deviation.

The present theory is that in every plant or animal there is a definite number of units, known as chromosomes. These units work in pairs. Man has 48 of these pairs. These chromosomes furnish the means for transmission of hereditary characteristics.

The Clarkia appears to have a varying number of pairs. The correct number seems to be four, but there have been counted from five to eight pairs in the sex cells and from two to seven in the body cells. This is in defiance of all knowledge of heredity.

Professor Burlingame discovered this wide variation while experimenting in hybridization of this plant in the garden. Upon noticing the inconsistency of the plant, he began a thorough study of its properties. He is attempting to prove that it may be explained by the chromosomes having broken up into smaller particles, but still remaining unchanged in their original quantity. If this were true, the smaller parts would be the same size as the sum of the proper number of full sized chromosomes. Owing to the irregularities in their shapes, however, great difficulty is being found in measuring them.

This is the only known case in which the number of chromosomes varies though there may be others yet undiscovered. Professor Burlingame believes that the explanation will be in accordance with the laws as they are now understood, and is attempting by experiment to confirm his theory.

DON'T DRINK METHANOL! ITS POISONOUS

Methanol, the synthetic alcohol which is now being made cheaply in Germany, is just as poisonous as the similar wood or methyl alcohol, despite claims that the foreign product, because of its high purity, is harmless. This statement is made by Dr. Reid Hunt, of the Harvard Medical School, in "Industrial and Engineering Chemistry", following a series of experiments.

"The results with the German (synthetic) methanol were the same as those obtained with pure methyl alcohol obtained from wood distillates," says Dr. Hunt. "It can confidently be predicted that the use of the synthetic methanol as a beverage or as an adulterant will be followed by the same disastrous effects to life and vision as have characterized such uses of wood alcohol. Those who are circulating the report that the synthetic methanol is not poisonous are not only stating an untruth but are assuming a grave responsibility, for death or blindness

will inevitably be the fate of a number of those who may be misled by such statements and attempt to use synthetic methanol as a beverage."

As a result of his experiments on animals, Dr. Hunt finds that small doses of either methanol or ordinary wood alcohol are not as poisonous as the same amount of ethyl, or grain, alcohol; but when the doses are repeated a few times at 24 hours intervals, the methanol has the most harmful effect. This is because the animal develops a tolerance to the ethyl alcohol. Methanol, however, works differently, as it has a cumulative action, a number of small doses having the same effect as a similar amount given at once.

Man, however, is sensitive to both, and, according to Dr. Hunt, a small dose of methyl alcohol is more harmful than a similar dose of ethyl alcohol. "The more highly developed nervous system of man is more seriously affected by methyl alcohol than is that of the lower animals and permanent blindness has often been reported from single, sometimes small, doses of methyl alcohol, whereas such results are unknown in the case of ethyl alcohol."

TABLOID BOOK REVIEW

THE VOLCANIC ACTIVITY AND HOT SPRINGS OF LASSEN PEAK, by Arthur L. Day and E.T. Allen. Washington; The Carnegie Institution of Washington. Publication No. 360. 190 pages. 1925.

This is one of the most successful pieces of scholarship on volcanism and thermal waters that has been produced in this country. It should be of great interest to all geologists and students of geophysics. Outside of these special classes should appeal also to the educated national parks enthusiast, for it contains more complete information about this recently created national park than can be found elsewhere in the compass of a single volume.

THE HEAVENS; by J.H. Fabre, translated by Dr. E.E. Fournier d'Albe, 336 pp Philadelphia, J.B. Lippincott Company, no date.

Jean Henri Fabre was an acknowledged master in the gentle art of putting scientific facts into popular form, and his style has been ably preserved in the translation of this book by Dr. d'Albe. However, it was first published about fifty years ago, and while it was doubtless complete up to that time, it is unfortunate that it should now be republished without adequate revision. An attempt has been made to indicate some of the later discoveries by an occasional footnote inserted by the translator. This method is at best a makeshift, and when we see such a note as that on page 310, where the author refers to alpha Centauri, the nearest star to the earth, 4.3, light years distant, and the translator states that "A smaller star, called Proxima Centauri, has recently been discovered at about half that distance", we are compelled to question the accuracy of all his notes. Actually, of course, Proxima Centauri is but a fraction of a light year nearer than alpha, the two forming a binary system. Many of the illustrations are poorly reproduced, and it is difficult to understand why a plate such as that facing page 334, showing old drawings of comets and nebulae, should be used as representing these objects when so many modern photographs, taken at the greatest observatories, are so easily available.
