

Chemical Action In Brain Studied

Physiology-Psychiatry

Blood Analysis Shows Sugar and Oxygen are Utilized

A NEW technical procedure by which the chemistry of the brain can be studied directly for the first time was described at the meeting of the American Psychiatric Association by Dr. Abraham Myerson of Boston.

Blood is taken from the artery which leads to the brain, the carotid artery, and from the vein which drains the brain, the internal jugular vein. In this way it is possible to measure directly the chemical changes which take place in the brain itself. The chemical content of the blood thus measured is compared with that of blood taken similarly from an artery and a vein in the arm.

It is thus shown that more sugar disappears in the brain than disappears in the arm. Since sugar is utilized in the body for something corresponding to muscular activity, it is evident that the brain utilizes sugar in somewhat the same manner as does the muscle.

It is also shown by these studies that the brain uses oxygen in at least

the same amount as does the arm.

It has been believed that the brain is an active organ using up sugar and oxygen in much the same way that other organs do. It has been impossible to prove this, however, or to measure this activity until the introduction of this new research method.

Excessive Mothering

WHY some women "mother" their children too much has been probed by the Institute of Child Guidance, Dr. David M. Levy of New York reported. Two kinds of over-protective mothers were found.

One kind of over-anxious mother dominates her children, and their personalities become submissive, in boys even effeminate. The other kind indulges her children so much that they become aggressive and self-centered, it was found.

Looking into the life experiences of the mothers to see why they focussed all their attention on their

children, the psychiatrist discovered that some of these women suffered from lack of parental love when they were children. Other mothers became over-protective because they were forced to become earners for the family early in life, and they got the habit of directing affairs. Thwarted careers cause some to bend all their talents and energies toward bringing up their children.

Incompatibility between husband and wife was found in many of the homes lurking in the background as one cause of the wife's directing all her interests in one channel. Fathers in the "over-mothered" homes played a minor role. They were not consulted about the children, and they submitted to their wives who were supposed to know best.

The children of such homes not only suffered from over-mothering, but also from lack of a father's influence and from lack of the influence of friends and companions, it was shown.

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Cannon-Ball Tree

Botany

The strange growth represented on the cover of this issue of the SCIENCE NEWS-LETTER is not a freak grape-fruit tree. It is the normal method of flowering and fruiting of the cannon-ball tree, a member of the monkey-pot family found in the forests of South America. Its fruiting branches always grow out of the lower part of the tree—a scheme that might well have been adopted by other trees that burden themselves with heavy fruits. The big round balls, looking very much like ammunition for old-fashioned smooth-bore ordnance, are filled with inedible, fibrous pulp in which the seeds are embedded. The specimen shown in our picture is on exhibition at the Field Museum of Natural History, Chicago. It was collected by the Stanley Field Guiana Expedition.

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The original tubes with which Roentgen discovered X-rays are preserved in the German Museum at Munich.

An iceless refrigerator designed for country districts that have no gas or electricity burns kerosene to cool its contents.

Weevils and Weather Predict Cotton

Meteorology—Entomology

FICKLE weather and the boll weevil have been made to tell as early as the first of September almost exactly how much cotton will be harvested in United States during the following fall months.

Just how these predictions can be made based on the weather reports from hundreds of stations throughout the cotton belt was made public for the first time by J. B. Kincer, chief of the Division of Agricultural Meteorology of the U. S. Weather Bureau, at the meeting of the American Meteorological Society.

The method which Mr. Kincer and his associates, W. A. Mattice and Miss G. B. Diehl, have worked out during the past two years will give cotton growers, buyers and investors accurate information on production far in advance of the harvest and should enable them to sell and buy more profitably. Calculations have been made of estimated and actual production since 1909 with an accuracy of approximately 97 per cent.

For the bumper crop year of 1926 the actual production was almost ex-

actly the same as they predicted. In 1921, the year of smallest yield, an error of seven per cent. the largest of the 20-year period, was made. For 1928 the prediction was only three per cent. less than the actual production.

To make the calculations, Mr. Kincer used weather information such as amount of rainfall, number of rainy days, relative humidity, amount of sunshine, and average, highest and lowest temperatures. Weevil damage is estimated from the weather of the preceding summer, which determines the number of insects that hibernate during the winter; from the severity of the winter, because many might be killed by the cold; and from growing season weather, as dry weather keeps the weevil in check and damp weather greatly increases his family.

From this information a weevil index is worked out by mathematical relations to be combined with the weather yield relation for the final result. The predictions can be made for each state as well as for the entire cotton belt.

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