

Sweeter Than Sugar

Chemistry

A new sweetening compound which is somewhat sweeter than saccharine and 690 times sweeter than sugar has been prepared by Dr. Henry Gilman and J. B. Dickey of the department of organic chemistry at Iowa State College from waste products of corn. The name of this compound is "the *syn*-isomer of 5-benzyl-2-furfuraldoxime."

Despite its sparing solubility in water it may become a pattern for new and valuable sweetening compounds. As yet, no study has been made of its physiological action. It is interesting to note that unlike other artificial compounds of high sweetening power this compound can be readily prepared from sugar by standard organic reactions. Other raw materials, like paper and cellulosic compounds in general, can be used as a starting point in its synthesis.

Previously, Dr. Gilman and A. P. Hewlett prepared a compound from corn cobs which was 200 times sweeter than sugar.

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Bones Grown in Tubes

Histology

A most amazing case of living tissue being grown outside the animal body is the growth of embryo gristle or cartilage into bone. This remarkable transformation has been accomplished by Miss Honor B. Fell, working at the Strangeways Research Laboratory at Cambridge, England.

When the proper conditions of nourishment and temperature are maintained, isolated cells from animal embryos have been seen to grow and develop in the test tube just as if they were still in the animal body. Miss Fell, using a technic similar to one devised by the late Mr. Strangeways, has thus cultivated tiny pieces of gristle from six-day old embryos of fowl. During cultivation, they increased to more than three times their original length and developed along practically normal lines.

Besides growing, these test tube cultivations have actually manufactured a substance called phosphatase, an enzyme, which is of immense interest to biochemists, Miss Fell and R. Robison of the Lister Institute, London, have reported. When the tiny pieces of gristle were taken from the embryo, they contained no phosphatase at all.

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Silver from Waste

Chemistry

How one of the large Hollywood motion picture laboratories has turned its tanks of old developing solutions into a silver mine yielding \$6,000 a month is told by the Bureau of Standards. The emulsion on undeveloped film consists largely of silver, associated with bromine to form silver bromide. When developed, the silver bromide that has been exposed to light changes to metallic silver. In the fixing bath, the unchanged silver bromide is dissolved out, leaving clear spaces where the film was in darkness. Every pound of silver bromide contains over nine ounces of silver. Though miles of film are run through the solutions weekly, and they contain large quantities of silver, they were formerly thrown into the sewer when their power was exhausted. Now, by a simple chemical process, the silver is recovered, and sold to the U. S. Mint at San Francisco. Old film is also burned to recover the silver, and sometimes yields as much as \$1,000 worth of silver a month in addition.

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