

of proposed dams such as the problem attacked by the Bureau of Standards, but for questions connected with levees, channel straightenings, diversions for industrial purposes, introduction of large sewers and other sudden additions of water, presence and removal of rocks, sandbars and artificial obstacles, and a score of other things that engineers need to know.

A novelty is the "glass river" used at the University of Minnesota. This is a flume with sides of glass instead of wood or metal. This permits the research engineer to study the up-and-down weaving of the currents, as well as their sidewise and eddying motion—a kind of observation not possible either with the

older type of flume or with the rivers themselves.

Abroad, hydraulic laboratories are a story at once old and new. In such countries as France and Germany, engineers had them to work with before they were known in America. On the other hand, they came to Russia only since the Revolution. But Russia is a land of mighty rivers, resembling the United States in that respect at least, and the Soviet engineers are trying to make up for lost time by building the "biggest ever," when they have a hydraulic problem to tackle.

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#### MEDICINE

## Little Grains of Starch Stop Growth of Cancer

**A** HINT that starch grains injected into cancerous tumors will stop their growth and in many cases cause them to disappear is contained in one of the 33 cancer researches in America and abroad supported by the International Cancer Research Foundation grants totaling over \$300,000.

This hopeful experiment was made on a mouse tumor by Prof. Robert Chambers and C. G. Grand, of New York University's Department of Biology.

Injections of starch grains "produced a marked infiltration of polymorphonuclear leucocytes into the tumor." Leucocytes or white blood cells are the soldiers of the blood stream that fight invading germs. The accumulation of leucocytes inhibited further growth of the tumor and, in many cases, the tumor disappeared completely. Inert particles, like charcoal, did not produce the effect. So far the method has been applied to mice only.

The ultimate solution of the cancer, "the greatest unsolved problem in medi-

cine today," will come from research by well-trained investigators, said W. H. Donner, president and founder.

"Why is there so little money for cancer research?" asked Mr. Donner. "The answer lies probably in the fact that research appeals only to the intellect. Hospitalization and treatment for the amelioration of suffering make an obvious emotional appeal to a large public; the alleviation of pain is humanitarian, and a necessary function of civilized society.

"The solution of the cancer problem, however, is an intellectual rather than an emotional matter, because it will come from research. Essential though care and treatment are, they can not be of the slightest help in preventing the development of malignant disease in the next sufferer. For him or for her, hope lies in the laboratories."

Human cancer cells and tissues have been kept growing for years in glass dishes and fed artificially, the report of the Johns Hopkins Cancer Research and Tissue Culture Laboratories reveals. The "J. D." human tumor strain has been maintained in pure and continuous tissue culture for 5½ years and an "A. R." strain has existed 4 years. A number of human brain tumors had been cultured for almost a year when the report was submitted.

A new theory of cancer formation is suggested by experiments of Dr. A. Haddow of the University of Edin-

burgh. Chemicals from coal tars produce certain kinds of cancers and the new idea is that these carcinogenic hydrocarbons actually inhibit growth of the cells instead of stimulating them. The cancer is believed to result from the rise of a new cell race that rebels from the prolonged retardation of the growth of normal cells and multiplies rapidly forming the cancer.

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#### PSYCHOLOGY

## Study Debunks Idea That Geniuses Are Born Queer

**I**F MEN of genius are eccentric or insane, it is not because all geniuses are born queer, but possibly because of lack of understanding in their education and family life, Dr. Harvey Zorbaugh, director of the Clinic for the Social Adjustment of the Gifted, New York University, told an audience at the Woods Schools, Langhorne, Pa.

Among a hundred gifted children whose development is being watched at the Clinic, five are so extremely gifted as to be clearly in the class of potential genius. In terms of IQ, these children all score at or above 180; a "normal" score is 100. One child registered 204 on this mental scale; the others were respectively 180, 190, 196 and 200. Such genius is rare, Dr. Zorbaugh said. Probably not more than 24 would be found in all New York's 1,086,416 public school children.

All are well adjusted, socially competent young persons, Dr. Zorbaugh told the Conference on Education and the Exceptional Child meeting at Langhorne.

"In three generations of the five families of these children there is but one relative who may be suspected of a psychotic episode," he said. The mother of one child is eccentric although it has never been necessary to put her in a hospital. All the other relatives seem

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