

MEDICINE

Cancer Cause Suggested

Strong indication of a virus cause of the dread disease has been obtained by mice and chick embryo studies. Leads thus far called well worth following.

► **CANCER MAY** be a virus, one of those submicroscopic disease-causing agents that are already known to be responsible for such other maladies as smallpox, yellow fever and the hoof and mouth disease of cattle. Evidence to this effect was presented at the American Chemical Society meeting by Prof. Roger J. Williams, director of the Biological Institute of the University of Texas.

First strong indication of a virus cause for cancer was obtained by Dr. Alfred Taylor of the institute staff who succeeded in inoculating incubating eggs with cancerous material from mice. A filtered extract from these eggs provoked new cancers when injected into healthy mice.

It has been found possible to keep the cancer-cultures going for many months by transplants from egg to egg, and the filtered extracts again caused cancers when re-injected into mice. Something (possibly the virus) emanates from these cancers and produces malignant growth in nearby tissues.

Various methods for separating out this virus, such as low-temperature drying and high-speed centrifuging, have been successful, but not consistently so. The material thus obtained does not always "take".

One highly suggestive result has been the production of cancers in rats from the mouse material—"cancers," Prof. Williams remarked, "which could not have arisen from the mouse material injected except through the agency of some virus-

like cancer-producing agent." Again, however, results were not consistent.

Lack of wholly dependable results is not discouraging the Texas group of researchers. Leads thus far obtained are considered well worth following intensively.

Streptomycin Keeps Better

► **STREPTOMYCIN**, penicillin's new companion in the germ-fighting business, keeps better than penicillin, Dr. Peter P. Regna and Dr. Leonard A. Wasselle of the research laboratories of Charles Pfizer and Company, Brooklyn, reported. Well-dried streptomycin salts, containing less than one per cent of water, have shown no loss in strength after a year on the laboratory shelf.

Brittle Capillaries

► **BRITTLE** capillaries, which give rise to apoplexy if they break in the brain, or blindness if the hemorrhage occurs in the retina, can be restored to normal condition by the administration of rutin, a compound found in plants, the chemists were told by Dr. James F. Couch of the U. S. Department of Agriculture's eastern research laboratory at Philadelphia and Dr. J. Q. Griffith of the University of Pennsylvania. Success in the treatment of this disorder was obtained in a considerable number of cases whose subsequent histories were carefully followed.

Science News Letter, April 20, 1946

CHEMISTRY

More Powerful Than TNT

Called nitromethane, it is also much safer to handle. It is now made by mixing nitric acid and natural gas. Is now available for civilian use.

► **NITROMETHANE**, a high explosive much more powerful than TNT but much safer to handle, is now released from military restrictions and is available for civilian use, Harold Shechter of Purdue University announced at the

meeting of the American Chemical Society. Mr. Shechter's colleagues in research leading to the cheaper and more efficient production of this useful detonating compound were H. B. Hass, L. G. Alexander and D. B. Hatcher.

Nitromethane, as its name implies, is the nitrated form of methane, which constitutes about 85% of most natural gas, and which, under the names of fire-damp and marsh gas, has long been known as a peril in some coal mines. It is not at all new, having been first made in 1872; but production methods hitherto in use have not been efficient, and have used substances more expensive than methane, so that it has not been widely used where costs have to be counted. Mr. Shechter and his associates, treating methane with nitric acid under a pressure of 100 pounds per square inch, were able to obtain a very satisfactory yield.

Since natural gas costs only three cents a thousand cubic feet in Texas, and since many wartime plants built for the production of nitric acid are now standing idle, there is no good reason why nitromethane should not be turned out in any needed quantity at relatively low cost, Mr. Shechter pointed out.

Inactive Vitamin B₁

► **RAW CLAMS**, and some kinds of raw fish, inactivate thiamin, or vitamin B₁, changing it into a different compound that has no vitamin value to mammals, Prof. D. J. Hennessy of Fordham University told the chemists. He and his associates, S. Warner, Dr. K. G. Falk and J. Truhlar, were stimulated to start their investigation by reports of the curing of paralyzed young foxes that had been fed in part on raw fish when they were given heavy doses of thiamin. The other ingredients of the young foxes' rations contained plenty of this vitamin, but something in the raw fish destroyed its dietary value.

Thiamin mixed with raw fish disappeared in the same way when a direct laboratory test was made. Since civilized men seldom eat raw fish, but do eat raw shellfish, especially clams and oysters, the Fordham group tried the effects of these mollusks on thiamin. Thiamin mixed with oysters retained its power, but when mixed with clams it became valueless.

Chemical refining methods produced the compound into which the fish and clams had converted the thiamin. Prof. Hennessy has christened it "ichthiamin", which is a combination of the Greek "ichthus", meaning fish, with thiamin.

Science News Letter, April 20, 1946

Cheese was preserved in Germany by dipping in polyvinyl acetate emulsion.