

## CANCER HEREDITARY, CHICAGO WOMAN SHOWS

Experiments on 50,000 mice belonging to hundreds of generations and yielding over 5000 cancerous individuals, conducted over a period of sixteen years by Maud Slye of the University of Chicago, working under the auspices of the Otho S. A. Sprague memorial institute, give evidence opposed to the germ theory of cancer, and prove that resistance as well as susceptibility to cancer in mice is inheritable.

Miss Slye says further, that the heredity of cancer and non-cancer tendency uniformly follows a perfect Mendelian pattern. Moreover, the spontaneous cancers investigated are said to arise in the natural life of the animals without any artificial procedure whatever except that of selective breeding, exactly as man's spontaneous cancer arises.

The cancers in mice develop, she continued, in the same organs and the same tissues as similar tumors in man, and they bring about death in the same ways. Under the microscope there is a great similarity to similar tumors in man.

"If we concede evolution as a fact, and if we concede that heredity controls evolution, we must concede that those characters which are hereditary in the lower animals are also hereditary when they occur in man," is her deduction. "Certain other aspects of the studies carried on in this laboratory should be outlined briefly here because they have a marked bearing upon the baffling problem of the nature of cancer. It is of interest to note these facts at this time, particularly in the light of the recent announcement by Gye and Barnard, of London, of a germ that produces cancer when accompanied by a chemical. The results of my studies seem to conflict with any theory which states that cancer may be caused by a specific germ such as any known to science.

"The clinical course of several thousand breast cancers has been followed closely by this laboratory, and they all have shown certain points in common. Every mouse is examined once a week for tumor nodules, and most of these external tumors, such as breast cancer, are found when they are very small, measuring usually from 1.5 to 5 or 6 millimeters in diameter. The mice carrying these early tumors are uniformly among the largest, the healthiest, and in every way the most perfect specimens in the laboratory, and they show at this time no symptoms whatever of illness. If these same mice are isolated, well fed, and bear no young, the tumors grow with great rapidity."

The germ theory, as a result of the researches, may be attacked from many directions: The type of inheritance behavior of cancer resistance and cancer susceptibility is opposed to the germ theory. In addition, cancer does not interfere with reproduction unless the cancer is in the reproductive organs themselves or in some internal <sup>organ</sup> whose vital mechanism is interfered with. This is not true of infections. Tumor growth is retarded by reproduction. The investigator found that in hundreds of cases the growth of breast cancer had been greatly retarded by reproduction. This is not true of infections.

Miss Slye believes that there are two factors necessary for the production of cancer: First, an inherited susceptibility to the disease. Second, proper irritation to the cancer-susceptible tissues. This serves to indicate, she said, that by avoiding chronic irritation of locally susceptible tissue much will be

accomplished towards retarding the dreaded disease.

#### MINERAL RESOURCES A SERIOUS WORLD PROBLEM

That a commercial League of Nations may possibly be established to help settle the world's problems with regard to mineral resources is foreseen by Dr. Charles K. Leith, well known geologist from the University of Wisconsin, who is attending an international meeting of geologists in Madrid.

Dr. Leith points out that a mighty conflict is going on between two powerful forces; world demand for the needed supply of minerals, and, on the other hand, nationalistic forces which are working to use the mineral resources of a political state for national gain or protection.

Mineral resources are very unequally distributed among the countries of the world, Dr. Leith states, and in many cases the great centers of supply constitute essentially national monopolies. The dependence of modern civilization upon these unequally divided minerals is growing and the problem of mineral resources figures largely in the consciousness of nations.

"The satisfaction of world demand for minerals must, therefore, over-ride political boundaries," said Dr. Leith. "There seems to be no way to eliminate either set of forces. The problem is to effect a balance or adjustment between them.

"Internationalization of resources, in the sense of turning them over to some super-national control, is probably a political impossibility, even if it were desirable, which is doubtful. But there is an opportunity to standardize by international agreement the many international commercial arrangements which are now effecting a fair and workable compromise between world demand on the one hand and nationalistic policies on the other."

Dr. Leith advocates an international economic conference, with fact finding committees, and "ultimately, perhaps, what will amount to a commercial League of Nations". This, he said, would not put an end to national mineral monopolies, nor would it cause a nation rich in minerals to lose advantages of these possessions.

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#### TRANSPLANTED PANCREAS CONTINUES TO FUNCTION

A successful operation of transplanting a portion of the pancreas into the mammary gland of a dog, has recently been performed by Drs. A. C. Ivy and J. I. Ferrell, of the Northwestern University School of Medicine.

The pancreatic gland produces potent fluids necessary to the body, including insulin which prevents diabetes. The scientists do not believe, however, that this method of transplanting a portion of the pancreas can be used practically for