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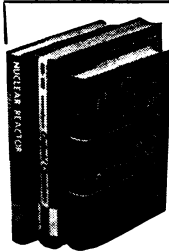
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VIROLOGY

Virus Is Cancer Cause

► VIRUS does cause cancer—in turkeys. Viruses are among the suspected causes of cancer in other animals, including man.

The latest discovery also shows that cancer, at least in turkeys, can be protected against and the cancer cells can be prevented from growing. This is done by implanting substances called antibodies from other turkeys that have withstood the infection.

The research reported is another step in understanding and perhaps conquering cancer.

Prevention was successful in 38% of the white Beltsville, Md., turkeys involved in experiments reported in *Science*, 139:922, 1963, by microbiologists at Rutgers University, New Brunswick, N. J.

Rous sarcoma, a virus-caused cancer, can be produced in chickens by implanting tumor cells. The implanted cells themselves have been found to multiply in chickens. However, another cause for cancer growth lies in infection and growth of host cells initiated by virus release from the implanted cells.

The researchers said that in their turkey experiments only those tumor cells carrying appreciable amounts of infectious virus produced tumors in all the birds inoculated. However, exposure of such cells to antiviral antibody before implanting into the turkeys resulted not only in the 38% reduction of cancer occurrence, but in smaller tumors growing at a slower rate or disappearing if they appeared at all.

It is possible, the investigators said, that infectious virus may be essential for maintaining unlimited growth and secondary spread of tumors as well as causing the initial growth. If so, immunity to the virus could conceivably limit the growth and spread of these tumors.

Rous sarcoma cells, they pointed out, are not readily transplantable. The tumors they produce appear to be largely induced by virus, Dr. Victor V. Bergs, now at Stanford Research Center, Menlo Park, Calif., and Dr. Vincent Groupe of the Institute of Biology at Rutgers, reported.

• *Science News Letter*, 83:190 March 23, 1963

VITAL STATISTICS

Largest Population Gain

► THE LARGEST population increase in the nation's history occurred between 1950 and 1960.

The gain of 28 million people—equivalent to the combined populations of New York, London, Moscow, Rome, Paris and Madrid—representing a 1.7% rate of growth for the decade, was reported in the Population Reference Bureau, 19:1, 1963.

This growth rate puts the U.S. closer to those of some of the developing countries than to those of all the major Western industrial nations and Japan. During the last decade Italy's population grew at the rate of 0.6%, Sweden's at 0.7, the United Kingdom's at 0.4 and Japan's at 1.1, while the growth rate for India was 2.0%, for Pakistan 2.2, for Peru 2.4 and for Cambodia 2.0. Breakdowns of the 28 million increase show that:

1. The increase of population in U.S. cities is more than enough to account for the total gain. For the first time in the history of the country, the rural areas suffered a net loss of population.

2. The nonwhite rate of population increase was 50% higher than for the white population.

3. The young and the elderly people were the fastest growing age groups.

Although the admission of Alaska and Hawaii to the Union added nearly a million people, the gain was mainly due to "natural increase"—more births than deaths occurring. Immigration added 2.7 million, but the foreign-born proportion of the population is still decreasing.

These figures raise questions about U.S. national resources and policies, since the

supply of water and minerals, as well as space, will not last indefinitely.

The report questions:

How long will our resources be able to support such increases?

What will happen to our welfare policy as the number of dependent youths and elderly people increases and the need for funds and for services grows with them?

• *Science News Letter*, 83:190 March 23, 1963

ANTHROPOLOGY

Prehistoric Flints Were Mass Produced

► MASS PRODUCTION is nothing new in the United States. Nearly 9,000 years ago a flint factory was operated by Indians on the bank of the Wahoning River in Ohio, Dr. Olaf H. Prufer, Case Institute of Technology anthropologist, reported in Cleveland.

The products were flint blades. They were probably used as javelin heads in hunting and in war.

The manufacturing process started at the quarries in the hills above the river. There the flint was procured and sent to the work places. The production stages progressed from rough striking of the flint to more and more delicate shaping and smoothing operations.

Most of the finished products were exported to regions near Lake Erie. Not much is known about the ancient craftsmen who operated the McConnell site.

• *Science News Letter*, 83:190 March 23, 1963