

WET SMEAR CANCER DETECTION TEST—Gastric fluid is extracted for later analysis by the smear technique. On the right, technicians fix and stain the smear slides while Dr. Papanicolaou who devised the technique watches.

MEDICINE

Cancer Prevention by Test

Dr. George N. Papanicolaou received a 1950 Lasker award for his diagnostic test for cancer. Cancers of internal organs may be diagnosed by this test.

➤ MORE practical cancer prevention is foreseen as a result of the famous Papanicolaou cancer diagnostic test for which its discoverer, Dr. George N. Papanicolaou of Cornell University Medical College, received one of the 1950 \$1000 Lasker Awards of the American Public Health Association.

Dr. George Wells Beadle, professor of biology and chairman of the biology division, California Institute of Technology, and Dr. Eugene Lindsay Bishop, director of health and safety for the Tennessee Valley Authority, also each received one of the awards. The group award was conferred on the International Health Division of the Rockefeller Foundation.

The Papanicolaou cancer diagnostic test depends on the fact that cancers of internal organs and body structures such as the uterus, urinary tract, stomach and lungs shed superficial cells which can be obtained for examination almost as easily as if the cancers were located on the outside of the body.

Valuable as the test is now for diagnostic purposes, it is considered to have even greater potential value for the future.

"It seems not impossible that repeated observations using this cytological (cell study) method will reveal the earliest changes of cancer," is the opinion embodied in the Award citation.

When the changes in cells revealed by

the test can be regularly shown, scientists think they may have an index to the effectiveness of methods designed to restore pre-cancer cells to normal.

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AERONAUTICS

International Air Trip Delays To Be Eliminated

➤ MANY of the recommendations of the International Civil Aviation Organization designed to reduce or eliminate obstacles and delays in international air travel are proving effective in the United States, the Civil Aeronautics Administration revealed in Washington.

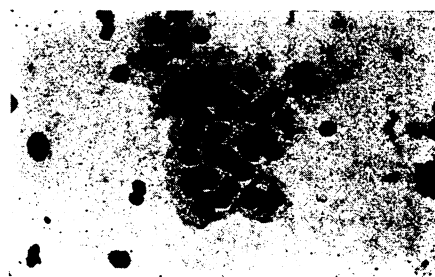
The international body, which includes representatives of more than 50 nations, has been for several years studying possible ways for cutting out red tape and other obstacles which delay the passage of travelers, mail and cargo on international routes.

To implement the work of the international group and make aviation-promotion recommendations of its own, an American committee was appointed by CAA in 1945. It consists of representatives of 10 government agencies and two air transport associations. It is known as the Subcommittee on Facilitation of International Civil Aviation, and is dubbed FAL for short.

A report of this committee reveals that solid accomplishments in reducing or eliminating obstacles and delays in international air travel were made during the past fiscal year. The committee report lists 29 accomplishments in facilitating air travel and movements of aircraft and goods across United States borders.

The greatest single accomplishment, according to the report, has been the approval and almost complete implementation of recommendations of the international group relative to national boundary-crossing obstacles.

Examples of smoothing the way for travelers in international air travel include



Non-Cancerous Cells



Cancerous Cells

the elimination of transit visas for persons who are in continuous transit across the United States from one country to another. Also important is elimination of the necessity of obtaining a CAA permit for con-

duct of private flights or flights not in furtherance of a business involving the carriage of mail, persons or cargo into the United States.

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PUBLIC HEALTH

Polio Study in Paulding

➤ A TEAM of over 25 polio fighters and public health experts gathered from all parts of the nation, moved into Paulding, Ohio, recently to begin what is considered a unique study of a rural poliomyelitis epidemic.

Thus, the scientists hope to learn more about how polio is spread and why it behaves as it does.

Paulding County, the field of their investigation, has been threatened with becoming a second Wytheville, Va., with 32 reported cases and four deaths from polio since the first of August. With a population of about 15,000, the county has an epidemic rate of more than 200 cases per 100,000 population. Authorities consider 40 cases per 100,000 to be a major epidemic.

"This epidemic is in some ways similar to Wytheville's but apparently not as severe," said Dr. C. R. Freeble, chief of the Ohio Health Department's communicable disease division, on his arrival in Paulding.

The special research team will work under Dr. Freeble's direction. It was gathered at the request of Dr. John D. Porterfield, director of the Ohio Department of Health. About 15 of the experts are being furnished by the Communicable Disease Center, U. S. Public Health Service. Dr. R. A. Vonderlehr, medical director in charge of the center, said that scientists have been sent from Atlanta, Montgomery, Ala., Charleston, W. Va., and other points. The others of the team are state health department personnel.

Dr. Ralph S. Paffenbarger, Communicable Disease Center epidemiologist, is

field director of the epidemic team. Working under him are physicians, statisticians, nurses, engineers, entomologists, veterinarians and laboratory authorities on virus disease.

"From our past experience we know that there are no steps we can take now to arrest the progress of the epidemic," Dr. Paffenbarger said. "We do, however, want to make a thorough study in the hope that some clue will be uncovered which will make it possible in future to stop such epidemics. At the same time we also want to provide such immediate aid as the community needs."

Here is how the research team will work: Medical epidemiologists will investigate all the circumstances surrounding the occurrence of each paralytic case and conduct other research.

Statisticians will make door-to-door surveys to measure the incidence of paralytic disease against that of other diseases which might be so-called "hidden," or unrecognized, polio.

Laboratory physicians will collect virus samples for study.

Engineers will conduct an environmental survey, studying all the factors in the environment which might bear on the polio incidence. These might include food, water, milk and sewage.

Entomologists will check the insect population and collect specimens.

A veterinarian will study the diseases of animals which might, in some way, be related to the human poliomyelitis.

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behavior from normal littermates. But a grown dog that had to be assisted in the delivery of her puppies, during which considerable unavoidable pain was caused, cannot be picked up by the person who assisted at delivery without yelping as if in pain.

While social factors, or environment, in many cases produce the stress that leads to breakdown, the nature of social adjustment patterns is itself in part determined by heredity and thus in part influences the likelihood of stress.

A factor which causes stress in one kind of animal may not do so in another, the scientists found. Dogs are badly upset by isolation, but mice are much less troubled by it. Within a single species, however, some dogs adjust themselves well to confinement whereas others cannot sit still even for short periods.

Details of the studies are reported by Dr. J. Paul Scott, director of the Jackson Laboratory's behavior division, to the Association for Nervous and Mental Disease.

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VETERINARY MEDICINE

Radioactive Eggs Trace Growth of Chickens

➤ RADIOACTIVE tracers from Oak Ridge are enabling veterinary scientists to follow, step by step, the growth of a chicken from an egg.

Radioisotopes of phosphorus, calcium, potassium, sodium, iodine, sulfur, iron, manganese, cobalt, zinc and carbon are now being used in poultry studies, Drs. C. L. Comar of Oak Ridge and O. E. Goff of Knoxville, Tenn., told the American Veterinary Medical Association in Miami Beach, Fla.

"Hot" phosphorus, for example, is tracing the formation of egg yolk and the development of chicken embryos, and helping scientists tag invisible viruses in infected eggs. Calcium and phosphorus isotopes trace the way a chicken utilizes those elements from its feed. Radioactive iodine is aiding studies of the thyroid gland in poultry.

Meanwhile, a committee of the AVMA has tackled the monumental task of putting all the diseases of animals into a single nomenclature. No one knows exactly how many animal ailments there are, but the AVMA's aim is to standardize disease classification according to origin and thus eliminate the use of several names for the same disease.

A new blood serum test for spotting distemper in foxes was reported by Drs. M. Savan and C. A. Brandy of the University of Wisconsin. They said the disease is now causing serious losses on American fur farms. In the new test, blood from a fox is mixed with a special virus preparation. If the animal is infected, a characteristic reaction takes place.

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PSYCHIATRY

Factors in Breakdown

➤ ENVIRONMENT is in most cases more important than heredity in determining breakdown under strain, it appears from studies with animals at the behavior division of the Roscoe B. Jackson Memorial Laboratory in Bar Harbor, Me.

In an individual case, however, the reverse may be true. Minor differences in heredity may make very great differences when animals are placed in a stress situation serious enough to produce breakdowns in some animals. Under ordinary conditions the hereditary difference may be unimportant, but in a stress situation it makes

the difference between breakdown and no breakdown for the individual.

The time when any social relationship begins is very important from the standpoint of preventing breakdowns and fostering good mental health, the scientists suspect from their studies.

The reason is that learning which takes place at that time may determine the nature of future relationships. For dogs the most important critical period takes place from about three to six weeks of age. Puppies which have their tails cut off at one week of age, for example, show no difference in