



#### VIRUS DETECTION

*Dr. Irving Langmuir, of the General Electric Research Laboratory, demonstrates his new method of revealing the presence of invisible viruses through changes in the colors of very thin films.*

#### MEDICINE

## Anti-Measles Vaccine Will Get Trials in This Epidemic

**Many Children Are Already Being Vaccinated; Army Considering Use Among Selective Service Trainees**

**M**ANY children in New Jersey and Philadelphia are now being vaccinated with a new and promising anti-measles vaccine, and Army medical authorities are about to consider the advisability of its use among selective service men now in training camps, where measles cases are on the increase.

The vaccine is not yet ready for general distribution and use. Dr. Geoffrey Rake, of the Squibb Institute for Medical Research at New Brunswick, N. J., with Dr. Morris F. Shaffer, developed the vaccine from measles virus grown on fertile hen's eggs.

The first vaccinations on a small group of children in Philadelphia, reported as successful last fall, were conducted under the direction of Dr. Joseph Stokes, Jr., of the University of Pennsylvania Medi-

cal School. Dr. Stokes is directing the present trials of the vaccine on a wider scale and is also director of the U. S. Army's measles commission which is just being formed and at its first meeting is expected to consider the use of the vaccine in Army training camps, according to information from Lieut.-Col. J. S. Simmons, chief, preventive medicine division, office of the Surgeon General.

The vaccination of children in New Jersey and Philadelphia orphan homes, schools and similar institutions had been planned before the present outbreak of measles started. It was delayed for six or eight weeks, however, by the influenza epidemic which struck all the institutions selected for the measles vaccine trials.

The program is now going ahead and

a good start has already been made. It is hoped the vaccinations, in spite of the eight weeks set-back due to the flu, will be completed in time to protect the children during the present epidemic. Children in homes and similar institutions usually get their measles six to nine months after children in the rest of the population, because the children in the homes are relatively isolated.

The vaccine will be given to one-half the children in the selected institutions, the other one-half remaining unvaccinated. This will give scientists a control group against which to check the protective value of the vaccine. Only children who have never had measles have been selected for both control and vaccinated groups. Permission of parents or guardians is being obtained before the vaccination is done, and just about one-half of the parents or guardians have given this permission, so there has been no need to draw lots or follow any other method for division of the children into vaccinated and not-to-be vaccinated groups.

Among the questions the scientists hope to have answered by the vaccine trials are how long and how completely the vaccine protects against measles. Until such questions are answered, the vaccine will not be released for general distribution.

*Science News Letter, March 15, 1941*

#### PUBLIC HEALTH

## Measles Cases Increasing Throughout Nation

**L**OTS of measles cases between now and the middle of April are expected by the U. S. Public Health Service. The number reported by the states for the week ending March 1 totalled 31,489. The total for the entire nation for the preceding week was 24,079.

These figures show that in one week there are more than one-tenth the number of cases that occurred during the entire year of 1940. That was a low year for measles, with only 276,000 cases reported during the entire year. Last big measles year was in 1938, when the year's total reached 822,800 cases.

The trend for measles is always either low or high, but U. S. Public Health Service records for the past 20 years do not show any regular measles cycles. The ups and downs in measles depend on the fact that nearly everyone is susceptible until he has had an attack. Once all the children who are old enough to

run around and play with other children and go to school have had an attack, they are immune to it. Then there follow one or two years in which so few children are susceptible to the disease that not many cases are reported. But as more children are born and grow into the run-about and school ages, a new large group susceptible to measles develops and the number of cases suddenly increases greatly over the previous year or two.

The present epidemic is centered in New York, New Jersey, Ohio, Illinois and Michigan. Experience in previous epidemics leads public health officials

to expect the peak of the epidemic by the middle of April.

Measles is a dangerous disease and the younger the child the greater the danger. Children under three years are especially likely to have fatal complications, such as pneumonia. Parents are therefore warned to keep young children from contact with those who have measles or may be coming down with it. The first symptoms may be easily confused with those of a cold.

Injections of the blood serum of someone who has recently recovered from measles are likely to avert an attack or make it less severe.

*Science News Letter, March 15, 1941*

thought these babies got the sickness from their mothers, although the mothers themselves did not have it.

Because the two adults who died of toxoplasmosis had lung involvements, the St. Louis doctors point out that the ailment might be transmitted directly from person to person, as the common cold is.

The infection is probably relatively rare, Dr. Sabin says, although there is "yet no indication how frequent such infection is." The St. Louis doctors, however, pointing out the similarity in the adults to recently reported cases of atypical pneumonia of unknown cause, state that it is not justifiable to assume that toxoplasmosis is a rare disease.

Treatment so far has been directed to relief of symptoms, but Dr. Sabin's report indicates that the newer sulfa drugs may prove effective. He gave sulfanilamide to one of the little boys, but without success. Later tests with mice showed that sulfapyridine and sulfathiazole have a curative effect on the infection in mice, but that sulfanilamide "only delays death but cannot prevent it" in this condition.

*Science News Letter, March 15, 1941*

#### MEDICINE

## New Disease Mystery Caused By Toxoplasma

### In Adults, Ailment Might Be Mistaken for Rocky Mountain Spotted Fever; Possibly Spread by a Tick

**D**OCTORS have a new disease mystery to solve. It concerns the ailment or ailments caused by a large, one-celled parasite known as Toxoplasma. The deaths of two adults and one six-year-old boy from infection with Toxoplasma, and a non-fatal case in another little boy, are reported (*Journal, American Medical Association*, March 1). The ailment may or may not be rare. How often it occurs is one of the unknowns in the problem.

The two little boys had "atypical encephalitis," Dr. Albert B. Sabin, of the Children's Hospital Research Foundation and the University of Cincinnati College of Medicine, reports. Encephalitis means "sleeping sickness" to most laymen, but the little patients did not have typical sleeping sickness. Convulsions, fever, disorientation, and an increased number of a certain kind of white blood cells in the spinal fluid were the chief features of the disease.

In the adults, the ailment might have been mistaken for Rocky Mountain spotted fever or endemic typhus fever, according to the report of these cases by Dr. Henry Pinkerton and Dr. Richard G. Henderson, of St. Louis University School of Medicine. Rash, fever and lung involvement were the outstanding features in these cases.

Toxoplasma, the "germ" that caused these quite different ailments, was first

discovered in 1908 in the gondi, a North African rodent. Since then it has been found in many animals, such as guinea pigs, rabbits, rats and mice and has been reported as causing disease in man. Scientists generally, however, rather doubted that Toxoplasma could or did cause sickness in man because the evidence in the earlier reports, with one exception, was inconclusive.

Now, however, the proof is more definite. Dr. Sabin and Dr. Pinkerton and Dr. Henderson report laboratory tests, including transmission of the disease to guinea pigs by inoculation with blood or spinal fluid from the patients, which are pretty convincing evidence that the Toxoplasma caused the illnesses.

How the patients got the infection is part of the mystery that remains to be solved. In the cases of the two adults, there was a suggestion that ticks, such as transmit Rocky Mountain spotted fever, might have given it. A cat in the home of one of the little boys became sick and had convulsions about the time the child got sick. This was suggestive, but the cat had been disposed of, so no tests could be made to determine whether it also was infected with Toxoplasma. Mosquitoes had been troublesome around this home, but no ticks had been seen.

Some cases of Toxoplasma infection have been reported in infants and it was

#### PSYCHOLOGY—GENETICS

## Sensitivity to Noise Is Perhaps Inherited

**C**ERTAIN individuals may be advised to stay away from noisy occupations such as riveting, pneumatic drilling, the tank corps in the Army if recent psychological research is found to have human applications.

Abnormal sensitivity to noise in rats, which makes some animals go wild with activity and even have an epileptic-like fit at the sound of jingling keys, is hereditary, Dr. Norman R. F. Maier and Nathan M. Glaser, of the University of Michigan, have found.

Of 18 rats tested, all of whom were offspring of normal parents, not a single one was found to have the "neurotic" sensitivity to noise, these scientists report in the *Journal of Comparative Psychology*. (October)

But among 25 offspring of one "neurotic" and one normal parent, more than half were thrown into fits by the key jingling.

When both parents were noise sensitive, the proportion of the offspring who showed the "neurotic" tendency was increased to nearly 75 per cent.

The evidence of the experiments is that the noise sensitivity is inherited as a dominant trait, the psychologists con-