

MEDICINE

# Synthetic Chemical Vaccines Against Pneumonia Announced

## Rabbits and Mice Are Protected Against Type II By Artificial Antigens Built in Laboratory

**A**NTI-PNEUMONIA vaccines of sugars and acids made in the chemist's laboratory instead of in the pneumonia germ's body were announced by Dr. Walther F. Goebel, of the Hospital of the Rockefeller Institute for Medical Research, New York City, at the meeting of the Society of American Bacteriologists in New Haven.

Rabbits and mice were protected against Type II pneumonia by these artificial antigens, as Dr. Goebel terms them. No human trials were reported.

A sort of chemical dissection of the pneumonia germ was the starting point for production of the artificial antigens that give resistance or immunity to the disease. The specific polysaccharide or complex sugar of the Type III pneumonia germ was taken apart and one of its building stones used to make an antigen which, when injected into rabbits, called up pneumonia-fighting antibodies. Rabbits' blood containing these antibodies also protected mice against Types II, III, and VIII pneumonia germs.

A second antigen was prepared synthetically. This synthetic antigen differs from the natural one only in the chemical structure or architecture of one group of substances, the aldobionic acids, present in both. This single difference, however, is sufficient to make the natural and synthetic antigens very different for pneumonia vaccination purposes. For example, the synthetic one can protect mice against very large doses of virulent Type II pneumonia germs, but not against Types III and VIII germs.

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## Influenza Vaccination

**R**ESULTS of influenza vaccination on more than a thousand human subjects with a vaccine of living influenza virus made in the laboratories of the New York City Department of Health were announced for the first time at the meeting.

The influenza-preventing value of the vaccine could not be conclusively determined from this trial, Drs. Morris Siegel and Ralph S. Muckenfuss, of the New

York City Department of Health, reported.

One difficulty in evaluating the vaccine on its first trial was that it was given during the 1939 epidemic. Influenza virus, however, was probably not responsible for all the illness during this epidemic. The patients had symptoms of influenza, but the germ that made them sick was not the same as the virus usually considered the cause of influenza and used in making anti-influenza vaccine.

Blood tests of the vaccinated people, however, showed that their blood contained influenza-fighting antibodies for four or five months after vaccination with influenza virus vaccine. Mouse tests also showed that the vaccine had anti-influenza potency.

Further human trials of the vaccine are planned. The first trials were made at Letchworth Village, New York State institution for mental defectives at Thiells, N. Y. Of the 3,600 inhabitants, one-third were given the influenza vaccine.

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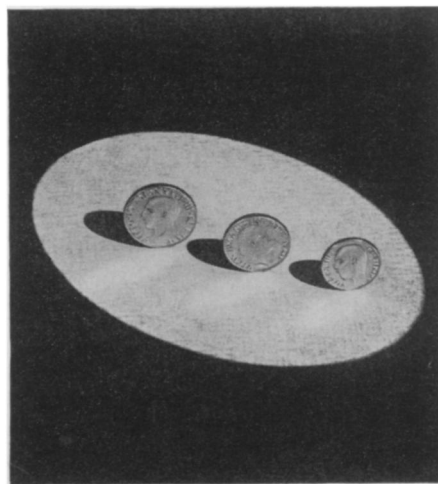
## Sulfanilamide In Oil

**S**ULFANILAMIDE and related chemical remedies for streptococcus and other germ diseases are more effective when given in oil than when given, as is usually done, in water or gum arabic, Dr. W. Harry Feinstone of the American Cyanamid Company reported.

The chemicals are absorbed more readily when given in oil, he found, and the concentration in the patient's blood remains at a curative level for longer periods.

New chemical derivatives of sulfanilamide, more active in mouse streptococcus infections than sulfanilamide, and capable of acting directly on the germs without first having to be broken down chemically in the body, were announced by Dr. Feinstone. These new chemicals, he said, were made by Drs. M. L. Crossley, E. H. Northey and M. E. Hultquist, of the Calco division of the American Cyanamid Company.

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**STEEL COIN**

*Stainless steel gets new usage in Italy as her mints pour out an entire issue of coins made of a steel containing approximately 22% chromium, 12% nickel and a small amount of molybdenum. Smallest among the coins is about the size of our nickel, the largest slightly larger than our half dollar. The total issue will use about sixteen and one-half million pounds of stainless steel. Italians are becoming accustomed to have stainless steel substitutes for noble metals; about three years ago patriotic Italian women sacrificed gold wedding rings as a patriotic gesture. The government replaced them with bands of stainless steel.*

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## Federal Health Service Has New Vaccine

**A** NEW vaccine for protection against a new and possibly widespread feverish ailment spread by ticks is ready for its first trials on human volunteers, the U. S. Public Health Service announces.

The new vaccine, successful in guinea pig trials, was prepared by Dr. Herald E. Cox and E. John Bell, of the Rocky Mountain Laboratory of the National Institute of Health at Hamilton, Mont. It was made from germs from infected ticks and also from the same kind of germs grown on developing chick eggs.

A member of the Washington headquarters staff of the National Institute of Health was the first recognized human case of the new disease, which has been named *Rickettsia diaporica*. He contracted the disease while observing research on it during a visit to the Hamilton laboratories, and recovered after about one month's illness characterized by mild fever with chills, recurrent sweating and tender finger joints.