

MEDICINE

# Discover How and Where Body Makes Its Germ-Fighters

## Antigens Marked With Dye Protein Came To Rest in Blood Vessels in Liver, Spleen and Bone Marrow

**D**ISCOVERY of where and how the body makes its disease-fighting antibodies was announced by Dr. Florence R. Sabin, of Denver, at the meeting of the Southern Medical Association in Memphis.

Resistance to disease depends on the possession of these antibodies in the blood which are active against the specific disease germ or its poisons. These antibodies are best induced by repeated small injections of antigen, which may be either disease germs or their poisons.

"Marked antigens," made with the use of dye-protein synthesized by Dr. Michael Heidelberger, of Columbia University, were used in Dr. Sabin's studies to locate the site of antibody formation.

When she injected these dye proteins

or marked antigens into an animal's body, she was able to discover particles of them in the cells that line the blood vessels in the liver, spleen and bone marrow and in certain other parts of the body. These cells are the scavenger cells of the body. They are part of the reticulo-endothelial system which had already been suspected of being the body's antibody factory.

Finding the marked antigen particles in these cells clinched the matter of where the antibodies are formed. A few days after the marked antigen particles were located, and at the time antibodies were appearing in the blood, the scavenger cells no longer showed any dye-protein and exhibited a considerable pinching off of their surface films. This

suggests, Dr. Sabin reported, that after engulfing the antigen from the disease germ, the scavenger cells synthesize a chemical called globulin, part of which is modified into antibody globulin. Then through a sacrifice of part of their protoplasm, these globulins are given to the blood. This part of the research seems to explain how the antibodies are formed.

*Science News Letter, December 2, 1939*

## Rare Skin Disease

**T**HE long-unsettled question of whether Kaposi's disease, rare skin malady, was due to cancer or a germ has apparently been settled by studies reported by Drs. Roger M. Choisser and Elizabeth M. Ramsey, of George Washington University School of Medicine.

The disease, characterized by acute swellings and peculiar eruption, is a malignant tumor, Dr. Ramsey stated. The conclusion was reached from the facts that: it was impossible to find a causative germ or virus; the disease could not be produced in animals by injecting material from human patients; and the microscopic appearance of the tissues and the invasive nature of the disease were like that of cancer.

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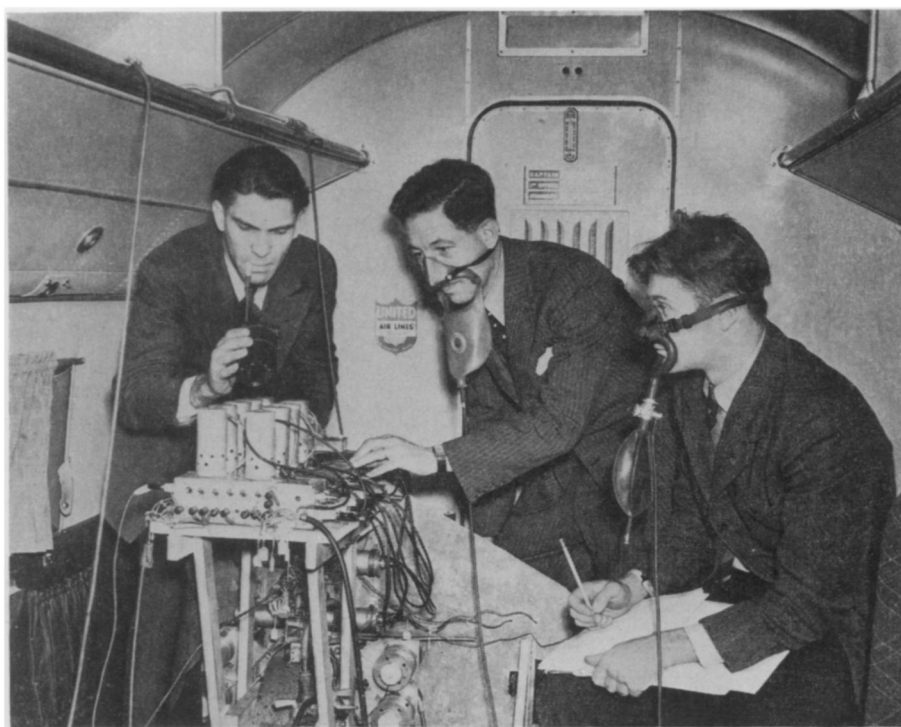
## Desensitizing for Ivy

**A** METHOD of desensitizing persons susceptible to ivy poisoning so they will escape attacks if they should come in contact with the plant was announced by Dr. Bedford Shelmire, of Dallas, Texas.

The method consists in giving a "shock dose" of poison ivy oleoresin in gelatin capsules. For three to 12 days after swallowing these capsules, the patients had flare-ups of itching and eruption. These were in no way like the skin irritation that follows contact with the plant. They were like the irritation that sometimes follows medicine to which a person is sensitive.

One week after the skin symptoms disappeared, five of the 19 patients who got the shock dose were given the same or double the dose of poison ivy in capsules. Not one of these had a single flare-up of the skin irritation. All 19 had previously had ivy poisoning and all had shown they were susceptible when a bit of the poison ivy oleoresin was applied to their skin. After the second big dose, the skin tests showed marked decrease in skin sensitivity to poison ivy. How long this period of desensitization will last has not yet been determined.

The possibility of desensitizing pa-



### FOR SCIENCE

At an altitude of 28,900 feet, scientists must work in oxygen masks. Wilfred Davies, United Air Lines research engineer (left), Dr. Gerhardt Herzog, Zurich physicist and Winston Bostick (right), of the University of Chicago, are photographing cosmic rays.