

## MEDICINE

# Rays Kill TB Germs

► THE sun's rays, long believed to have healing powers in tuberculosis, promise now to give science a new, potent weapon against the white plague.

The weapon is a vaccine. Unlike BCG, the most generally used vaccine against tuberculosis, this new one is made from dead TB germs. The germs, from a highly virulent strain in the lungs of a tuberculosis patient, are killed by man-made ultraviolet rays, like those produced by the sun.

Tried on guinea pigs, this vaccine gave at least as good protection against tuberculosis as the BCG vaccine made of living, weakened TB germs. Over half the animals vaccinated showed minimal or no gross sign of tuberculosis when "challenged" after vaccination by injections of virulent tuberculosis germs. This is a "significant difference" from the extent of the disease in non-vaccinated animals "challenged" by the same dose of virulent germs.

Preparation of this new vaccine and its trials in guinea pigs were reported to the National Tuberculosis Association meeting by Dr. Fred Stimpert and R. W. Sarber, research bacteriologists, of Parke, Davis and Company, Detroit, and Dr. W. J. Nungester of the University of Michigan.

One of the big objections to use of BCG vaccine is that it is made of live, though greatly weakened, tuberculosis germs. Many physicians have feared that these live germs might grow more virulent and cause disease instead of protecting against it. Another disadvantage of BCG is that it is unstable and cannot be relied on to be effective for more than a few days after its preparation.

The new vaccine from ultraviolet-killed germs remains effective for months, at least, and perhaps longer though long-term stability tests have not yet been finished.

Science News Letter, May 20, 1950

called classical approach, which cannot always be trusted to give correct answers in atomic behavior.

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## ● RADIO

Saturday, May 27, 3:15-3:30 p. m. EDT

"Adventures in Science" with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Dr. Maurice L. Tainter, Director, Sterling-Winthrop Research Institute, will speak on "New Drugs for Medicine."

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## PHYSICS

# Virus, Gene Secrets Nearer

► THE SECRETS of virus growth, the duplication of genes, and thus of life itself seems now to be nearer as a result of studies reported by Dr. Herbert Jehle of the University of Nebraska to the American Physical Society.

With its parts vibrating in unison—like a gigantic symphony orchestra—the macromolecules which are the genes or viruses can electrically signal to each other and attract without being in contact. Two identical molecules will tend to resonate while being buffeted by thermal forces.

The identical electric vibrations generated

will then push the large chemical units into precise alignment, and will attract them to each other. If the molecules differ, even in the position of a single atom, the strong forces will be lost. This physical process may explain gene self-duplication, anti-body formation, and some of the other little understood chemical life processes.

The particular aspect of this theory described by Dr. Jehle at the meeting of the American Physical Society was the exact quantum-mechanical operation of the interaction. Dr. Jehle pointed out that previous studies had been based upon the so-

## Question Box

### ENGINEERING

What is the prediction for petroleum in 2000 A. D.? p. 306.

### GENERAL SCIENCE

Where was the first national science fair held? p. 311.

### MEDICINE

What does the latest report on antihistaminics show? p. 310.

What is the element used in the pin-point radiation of deep cancer? p. 307.

Photographs: Cover, Chicago Natural History Museum; p. 307, Columbia University; p. 309, Westinghouse; p. 311, Aeronautical Photographic Experimental Laboratory, U. S. Navy; p. 315, Eugene Hutchinson.

### MINING

How far ahead of the U. S. are the Russians in chemical prospecting? p. 309.

What is the low-grade ore which may help to avert a future ore shortage? p. 314.

### PHYSICS

What are two dangers of H-bomb radiation? p. 306.