

## MEDICINE

# Suggestion Aids Coughs

**Mere act of taking a cough remedy may serve to stop the hacking. Ether and peppermint water were most consistent cough provokers used in tests.**

► BY SPRAYING ether and peppermint water right into the windpipe of a man who had been "treated" with an injection of common salt water, Dr. B. R. Hillis, of Glasgow University Medical School, has shown that the mere act of taking a "cough remedy" may often serve to stop a cough by the power of suggestion.

Dr. Hillis's unique experiments, reported in the journal *LANCET*, were made possible because he found a man who was willing and able to slip the nozzle of an atomizer over the back of his tongue down into his lower pharynx and keep it there for hours. This enabled the doctor to spray an irritant directly into the pharynx to induce coughing.

Ether and peppermint water were found the most consistent cough-provokers. After noting the amount of coughing which followed spraying without prior treatment, Dr. Hillis at various times injected or dosed his human guinea pig with different anonymous "cures" and noted the cough-suppressing effect of each.

When he injected his subject with physiological saline, a very weak solution of ordinary table salt in water, the doctor found that the mere fact that the patient thought he had been doctored was enough to cause a marked lowering in his coughing. In three separate sets of experiments the weak salt solution "cured" the patient of 10%, 28% and 62% of his coughs following ether spraying.

Taking into account this psychological factor, Dr. Hillis then tested a number of drugs for their effectiveness, both by mouth or on injection, in stopping a cough.

His most surprising discovery was that codeine, widely used in medical practice to suppress coughing, was practically no more effective than the salt water, leading to the suspicion that the cough-stopping effectiveness of codeine may be due almost entirely to the faith people have in it.

The most powerful cough-suppressant of the drugs studied was heroin, which reached 100% effectiveness in some experiments, but this drug also caused moderate to severe drowsiness nine times out of ten.

Morphine and a comparatively new drug, amidone, were also found to be potent cough-stoppers and produced less severe drowsiness than heroin.

Dr. Hillis points out that all the three effective drugs are classed as habit-forming and must be used with caution.

"Admittedly it would be unwise to use heroin for chronic cough," he says, "because of the risk of producing addiction."

But he thinks there is "some justification for using heroin as a cough-suppressant for short periods in selected cases, especially where a troublesome cough has not responded to other opiates."

Science News Letter, July 19, 1952

## INVENTION

## Patent Atom Model With Moving Electrons

► A MOVING model of an atom has been invented by John B. Underwood, Grass Valley, Calif. Its patent number is 2,601,729. In the invention, balls representing electrons move around a central nucleus. The inventor wants to demonstrate the movement of the particles composing the atom.

Science News Letter, July 19, 1952

## PHYSICS

# Electrons Near Light Speed

► A SPEED never before attained by man-accelerated matter, only one-tenth of a mile

per second slower than light, has been reached in the synchrotron at the California Institute of Technology, Pasadena. The velocity of light is 186,000 miles per second, and nothing can move faster.

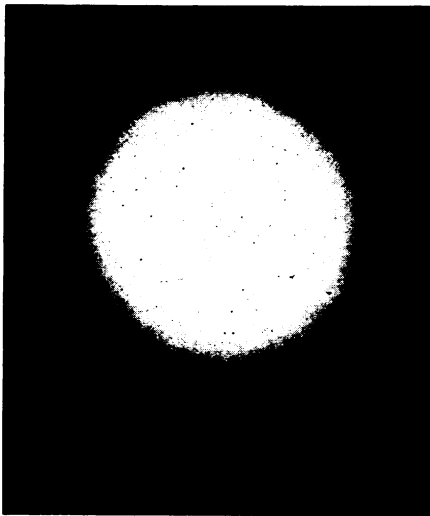
Record electron and X-ray energies were also scored, reports Dr. Robert F. Bacher, chairman of the physics division and director of the eight-man team cooperating on construction of the machine with the Atomic Energy Commission.

In preliminary operations, energies of 460 million electron volts have been reached, Dr. Bacher said. At this energy level, the electrons were more than 900 times heavier than electrons at rest, in accordance with Einstein's relativity theory.

When a one-eighth inch thick lead plate was put in the path of the electron beam, 460-million-volt X-rays were created, the most energetic ever produced by man. Energy output of the synchrotron will be raised to 500,000,000 volts this summer and later to around 1,000,000,000 volts.

Electrons are tiny particles of matter carrying a negative charge of electricity. They must be taken to higher speeds than the 1840-times-heavier protons, which are positively charged, in order to reach great energies. The cosmotron at Brookhaven National Laboratory, Long Island, N. Y., thus achieved energies of 2.2 billion volts in June by speeding up protons to 177,000 miles a second. (See SNL, May 31, p. 341.)

Science News Letter, July 19, 1952



**X-RAY "FOOTPRINT"**—Electrons from the synchrotron at the California Institute of Technology, accelerated to energies of 460 million electron volts, bombarded a lead plate, producing the world's most energetic X-rays and giving this "footprint" on film.

## • RADIO

Saturday, July 26, 1952, 3:15-3:30 p.m. EDT  
"Adventures in Science," with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Mr. Faber Birren, color research expert and color consultant, New York, discusses "Color and People."

## MEDICINE

## Authentic Temperature 114° F., Patient Lives

► ONE OF the highest rises in temperature authentically observed in a human being is reported in the *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* (July 5) by Drs. Alfred A. Fracchia and Alexander Brunschwig of New York's Memorial Hospital Center for the Treatment of Cancer and Allied Diseases.

The temperature rose to 114 degrees Fahrenheit, rectally, in one of their patients, a woman with a carcinoma, and the patient lived. The elevation in temperature, checked with three thermometers specially calibrated in the laboratory, was very brief, and the patient recovered fully.

Science News Letter, July 19, 1952