

## MEDICINE-CHEMISTRY

# Fast Headache Relief

Comes two minutes after the sodium salt of nicotinic acid is injected. Recommended for migraine, idiopathic and headaches following spinal punctures.

► RELIEF of migraine headache within two minutes after injection into the veins of a chemical related to the anti-pellagra vitamin, niacin, is reported by Dr. Joseph W. Goldzieher and Dr. George L. Popkin, of New York City Hospital on Welfare Island. (*Journal American Medical Association*, May 11).

The chemical they used is the sodium salt of nicotinic acid. This acid is the anti-pellagra vitamin which a few years ago was re-christened niacin to overcome popular prejudice against the idea of a vitamin put into bread to enrich it being an acid.

The headache that comes after spinal puncture is also relieved by this chemical relative of a vitamin. The chemical is also recommended by the New York

doctors for severe idiopathic headaches, a kind for which no cause is known.

The average person given this chemical feels hot, restless and uneasy within 30 to 45 seconds after the injection and his skin will be flushed. He may also feel itchy or have "pins and needles." These symptoms usually disappear within 20 minutes to half an hour. A few patients preferred the headache to this reaction to the treatment, but the majority were so glad for the relief of the headache they did not mind the other symptoms.

The flush and other symptoms result from the dilation of small blood vessels produced by the chemical. This dilation is believed responsible for the relief of the headache.

*Science News Letter*, May 18, 1946

## PHYSICS

# Gas Cans for Atom Test

The force of atomic explosions will be measured with instruments ranging from this simple pressure gauge to the most complicated ever developed.

► SCIENTISTS will measure the force of atomic explosion with instruments ranging from gas cans to some of the most complicated gauges ever developed, when an A-bomb drops on the Navy ships at Bikini atoll this summer.

Five-gallon gasoline cans will serve as the simplest type of pressure gauge. Dr. Ralph A. Sawyer, professor of physics at the University of Michigan and civilian technical director of the Crossroads operation, declares that fairly accurate records of the pressure from the blast can be made by seeing how much the cans have been collapsed.

Before the scientists have a chance to inspect the cans, they expect to have even more accurate measures of the pressure. Readings from far more complicated instruments of greater accuracy are going to be transmitted from gauges on the target ships to distant observers by frequency modulation radio, Dr. L. W. Chubb, director of the Westinghouse Research Laboratories, announced.

With pressure gauges and measuring

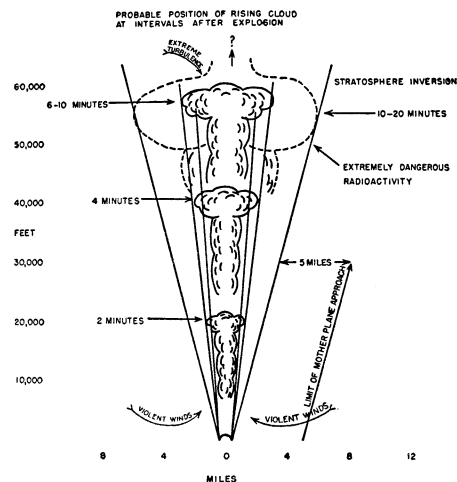
instruments hooked to radio transmitters, scientists will safely read the record of the test explosion from mother ships.

Thirty-six gauges located at 18 positions on two of the target ships will be transmitting readings to observers, with measurements fine enough to record significant changes down to 1/50,000 second, for the water pressure meters. Significant changes are expected only every 1/200 second for air pressures.

When the atomic bomb explodes, a brass bellows in each gauge on the ships will stretch a resistance strain gauge. The strain gauge frequency modulates a radio transmitter by means of a reactance tube, and the pressure on the gauge is sent to the receiver on a mother ship.

For the surface explosion, the second test scheduled at Bikini, cables will be run through the ship's hull into the sea. Six tiny tourmaline crystals sealed at the ends of the cables will send electrical impulses over six separate radio transmitters in a target ship.

Water pressure from the blast will



**ATOMIC CLOUD**—Object of much study are the atomic clouds which will rise after the bombs are dropped in the Bikini experiments. This sketch of the expected behavior in the first test has been released by Joint Army-Navy Task Force One. Note the region of violent winds at the bottom of the mushroom and the extremely dangerous radioactivity at 50,000 feet. Scientists hope to document their previous studies with much new photographic and instrumental data.

squeeze the crystals to produce electrical impulses. Tourmaline is used instead of the familiar quartz for the crystals because of greater strength.

*Science News Letter*, May 18, 1946

## PHYSICS

## Cosmic Ray Bomb Discounted by Scientists

► ANY IMMEDIATE possibility of a cosmic ray bomb a billion times more powerful than the atomic bomb, as suggested by European cosmic ray scientists, is discounted by American scientists.

While it is true that energies giving rise to the cosmic rays somewhere in the depths of the universe are measured in billions of electron volts compared with atomic nuclear energies of millions of electron volts, it would be a very long step from a discovery of the cause of the cosmic rays to making a bomb out of the method of generating them.

It may turn out that the conditions under which cosmic rays are generated are impossible of achievement here on earth. Astrophysicists feel confident that the Bethe theory of the origin of the