

## PHYSICS

# Paralyze Big Centers

Since the U. S. has 33 metropolitan areas, each with more than 500,000 population, 35 to 40 H-bombs could destroy these centers as well as our atomic installations.

► WITH ABOUT 35 to 40 H-bombs, Russia could paralyze our major industrial and population centers and our atomic energy installations.

There are 33 metropolitan areas with populations of more than 500,000. Each could be virtually destroyed with one H-bomb. Another five H-bombs could take care of Oak Ridge, Tenn., Los Alamos, N. Mex., Hanford, Wash., Portsmouth, Ohio, and the big new Savannah River, Ga., H-bomb plant.

Other places in the United States are only A-bomb size or smaller. An H-bomb, packing the equal of one million tons of TNT, would be too big for them.

The Soviet Union has two population centers worth hitting with an H-bomb, Moscow and Leningrad, plus five to ten atomic installations and special weapons centers.

Ten Russian H-bombs on the first ten major population centers could kill or injure almost 40,000,000 people.

Our government will know when the Russians explode their first H-bomb. Materials from that bomb, microscopic fragments, spewed high into the atmosphere, will travel westward over Siberia, China and the Pacific ocean. They can be picked up and analyzed by delicate instruments. It is known that our government keeps a constant watch for such particles. Thus we knew when the Soviets exploded their first A-bomb back in 1949.

An indication that the Soviets might not yet have exploded their first H-bomb might be in the small sum ex-President Truman asked for the Federal Civil Defense Admin-

istration in next year's budget. Only \$150,000,000 is earmarked in the new budget for civil defense. Meantime, it cannot be said that any large American cities are prepared to take and mitigate A-bomb attacks, let alone the H-bombs.

Whether to try to revitalize civil defense will be another of the many decisions facing President Eisenhower.

Science News Letter, January 24, 1953

## TECHNOLOGY

## New Rubber Still Bends At Frigid Temperatures

► A NEW easy-to-handle silicone rubber that bends without cracking even at 120 degrees below zero Fahrenheit has been developed by the General Electric Company to meet new design requirements of the fast-growing aircraft industry.

Called SE-550, the rubber can be made into gaskets, fuselage equipment seals and wire insulation for America's super-modern planes that now streak through the thin

upper atmosphere where temperatures fall as low as minus 67 degrees. The rubber also can be used in military ground equipment designed for the frigid Arctic.

The rubber actually does not become brittle until temperatures fall well below minus 120 degrees Fahrenheit. Yet at plus 500 degrees Fahrenheit, the substance still resists heat well.

The new compound can be milled and extruded easily and resists tearing when pulled from hot molds.

Science News Letter, January 24, 1953

## TECHNOLOGY

## Protect With Single Coat Of Fast-Drying Paint

► A FAST-DRYING paint used to cover the bottoms of wooden Coast Guard boats is saving the government \$50,000 a year, the Coast Guard reports.

Developed by the wartime Office of Scientific Development and Research, the paint dries in about 30 minutes. Often one single coat does the job formerly done by three coats of regular paint. In some cases, one coat of the paint has repelled marine growth on the wooden boats for 18 months.

The secret of the paint lies in its vinyl resin base which permits a much greater amount of cuprous oxide to be used. Cuprous oxide, a copper oxide, is the element which combats marine growth.

Science News Letter, January 24, 1953

## PUBLIC HEALTH

## Future Health Exams To Test Body Chemistry

► PERIODIC PHYSICAL examinations of the future will be "metabolic examinations with appropriate tests" to uncover faulty body chemistry that may be the basis of cancer, arthritis, asthma and many other diseases.

This prediction was made by Dr. Casimir Funk, the scientist who put the word vitamin into our vocabulary almost half a century ago.

Dr. Funk, whose research in 1911 led to isolation of the anti-beriberi vitamin, now known as thiamine, in rice polishings, made his prediction at the dedication of the new Funk Foundation Medical Research Laboratory in New York.

Science News Letter, January 24, 1953



**COINER OF "VITAMIN"**—The scientist who made the word "vitamin" a part of our language almost half a century ago, Dr. Casimir Funk, was recently honored at ceremonies opening a new laboratory presented to him. Here he is shown at work in one section of the new laboratory.