

# "PIC"

JULY 22, 41

**IS DEATH DUST  
AMERICA'S SECRET WEAPON?  
WORLD'S STRANGEST CHILD**

COVERING THE ENTIRE FIELD OF ENTERTAINMENT

**10c** 12 CENTS IN CANADA  
JULY 22, 1941

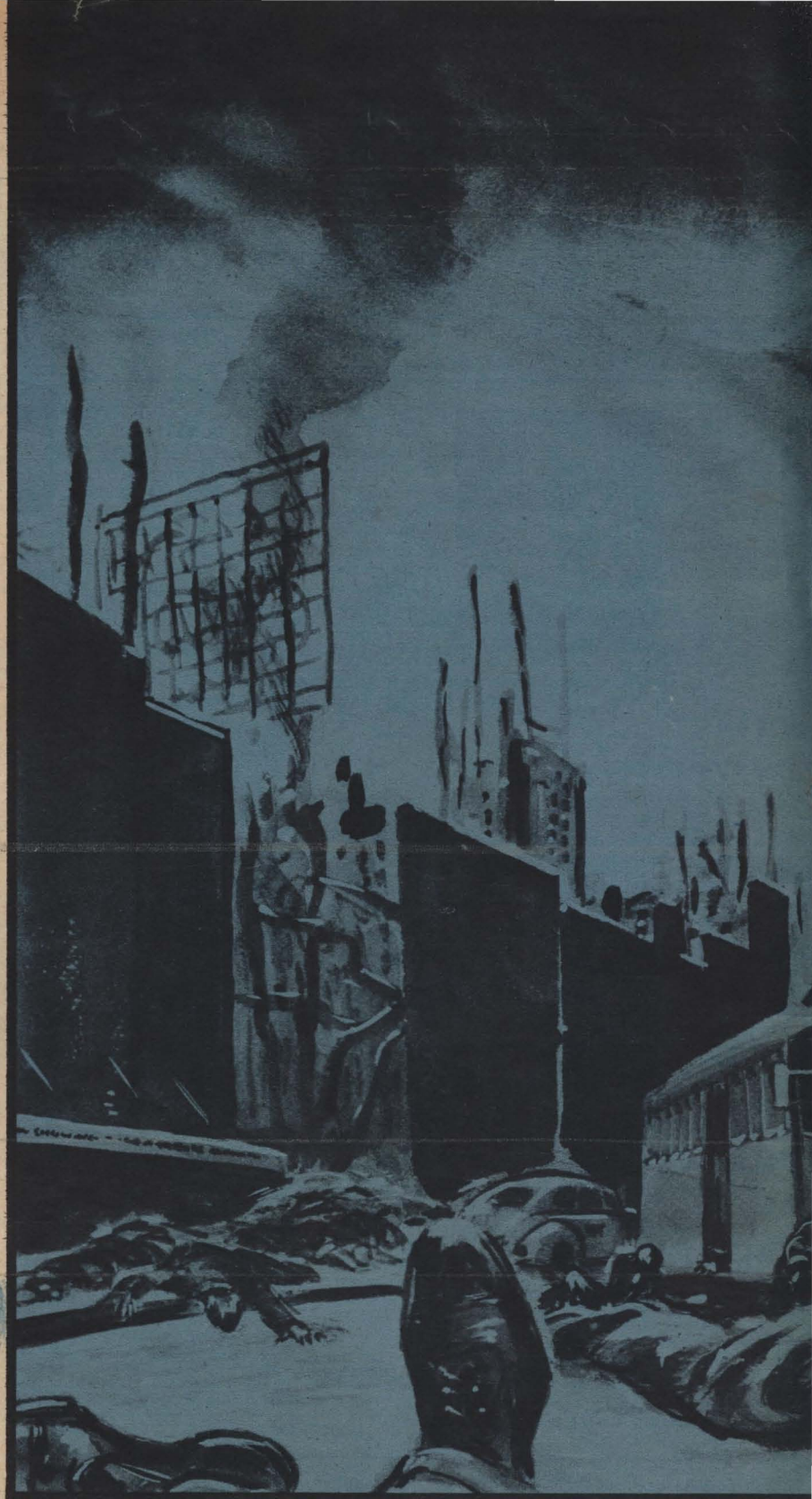
DAY DREAM







**THIS 90-TON** pear-shaped "atomic cannon" was constructed in Pittsburgh by Westinghouse shortly before the war. Only one report had been published when the world-wide silence on atomic experiments clamped down early last summer. But rest assured, the apparatus is in constant use.



ARTIST'S CONCEPTION OF CITY SPRAYED WITH HORRIBLE "DEATH DUST."

**IS  
DEATH DUST  
AMERICA'S SECRET  
WEAPON?**

By **JOHN W. CAMPBELL, Jr.**

**F**OR more than a year, there has been no news of the results attained in the most important scientific research in the world today—the research on Uranium 235. Behind this censorship of news that patriotic scientists have imposed upon themselves, there are moving events of immense importance—for *this war will be won or lost in the laboratory.*

Before the curtain was lowered, this much was revealed: it had been definitely shown that one of the types of Uranium, a metallic element available by the hundreds of tons in many parts of the world, could be made to release the stupendous forces locked in the atom, the core of all matter. A lump of this U-235 the size of an ordinary pack of cigarettes would supply power enough to run the greatest bomber in the world for *three continuous years of unceasing flight.* It would mean that there'd be no point on this planet which a bomber could not reach starting from any other point on Earth.

The whole world knew, in the early spring of 1940, that the one great problem remaining was to find a way to separate that colossally potent stuff from its ore. The ore was available to the British and to America in the huge Canadian deposits. The Nazis have supplies in Austria. The Russians have deposits of the crude ore in Siberia. Every warring nation had available the crude ore.





EVEN RATS WOULDN'T SURVIVE THE BLUE, LUMINESCENT RADIOACTIVE DUST. VULTURES WOULD BE POISONED BY THEIR OWN APPETITES.

And every warring nation knew this with deadly certainty: no tank, no battleship, no fort and no army could conceivably oppose an enemy armed with the Titanic power of U-235. No victory won on land, in the air or at sea is permanent or holds more than temporary meaning so long as the shadow of the atomic giant hangs over the victor. A tiny pursuit ship carrying less weight of U-235 bombs than is now carried as machine-gun ammunition could blow every dock, every fort and every airfield in Europe out of existence. With U-235 to work with, ordinary limestone, common table salt, or even sand can be made into a temporary equivalent of radium, throwing out prodigally those deadly, poisonous "radium rays." Where radium is today available by the thousandth of an ounce, the immense power of U-235 could be harnessed to make radio-sodium by the ton. And if a city were dusted with that synthetic radium, every living being in it would have to get out and stay out—or died of radium poisoning. And no living thing could reenter that city for *anywhere from 6 months to 500 years*—depending on what term the dust-spreaders had determined on. There would be no decontamination possible, for the very rock and soil of the ground would be deadly until the slow process of natural decay purified it.

No government, no military force, could continue to operate if their home

cities had been dusted with these synthetic radium powders. The homeless, foodless millions swarming out of cities that had suddenly become death traps would swamp railways, roads, all productive facilities. The entire nation would be paralyzed and in hopeless, rioting chaos.

Those things were known in the spring of 1940, before the Nazis blitzkrieged France into submission. Since that time, nowhere in the world has any scientist published any word of the experiments he has made, or the results of those experiments. The curtain has been dropped. But every scientist in the world knew those facts, and every war department on Earth knew them.

Nowhere today is there a fully equipped atomic research laboratory that is not directly or indirectly controlled by one war department or another. Every major power on Earth knows that whosoever first finds the means to extract, apply and control U-235 will have a military weapon that no possible defense not based on the same Titanic power can resist.

Roughly speaking, atomic weapons will be 5,000,000 times more powerful than any weapon of today. A .22-caliber rifle bullet would deliver an explosive force equal to that of a modern 12-inch railway naval rifle. A hand grenade would detonate with immensely greater violence than the greatest airplane bomb ever carried aloft. The proportion is, in fact, about that



between a common ant's strength and the strength of a full-grown man. With all the world seeking frantically for the secret of that irresistible weapon, what are America's chances in the race?

It is a question of men and brains and equipment. Thanks to Hitler's belief that those who don't agree with him must be wrong, America now has nearly all the first-rank theoretical physicists of the world. Mussolini's helped us somewhat, too, by exiling his best scientists. Neils Bohr, father of modern atomic theory, is at Princeton, along with Albert Einstein and others of Europe's greatest.

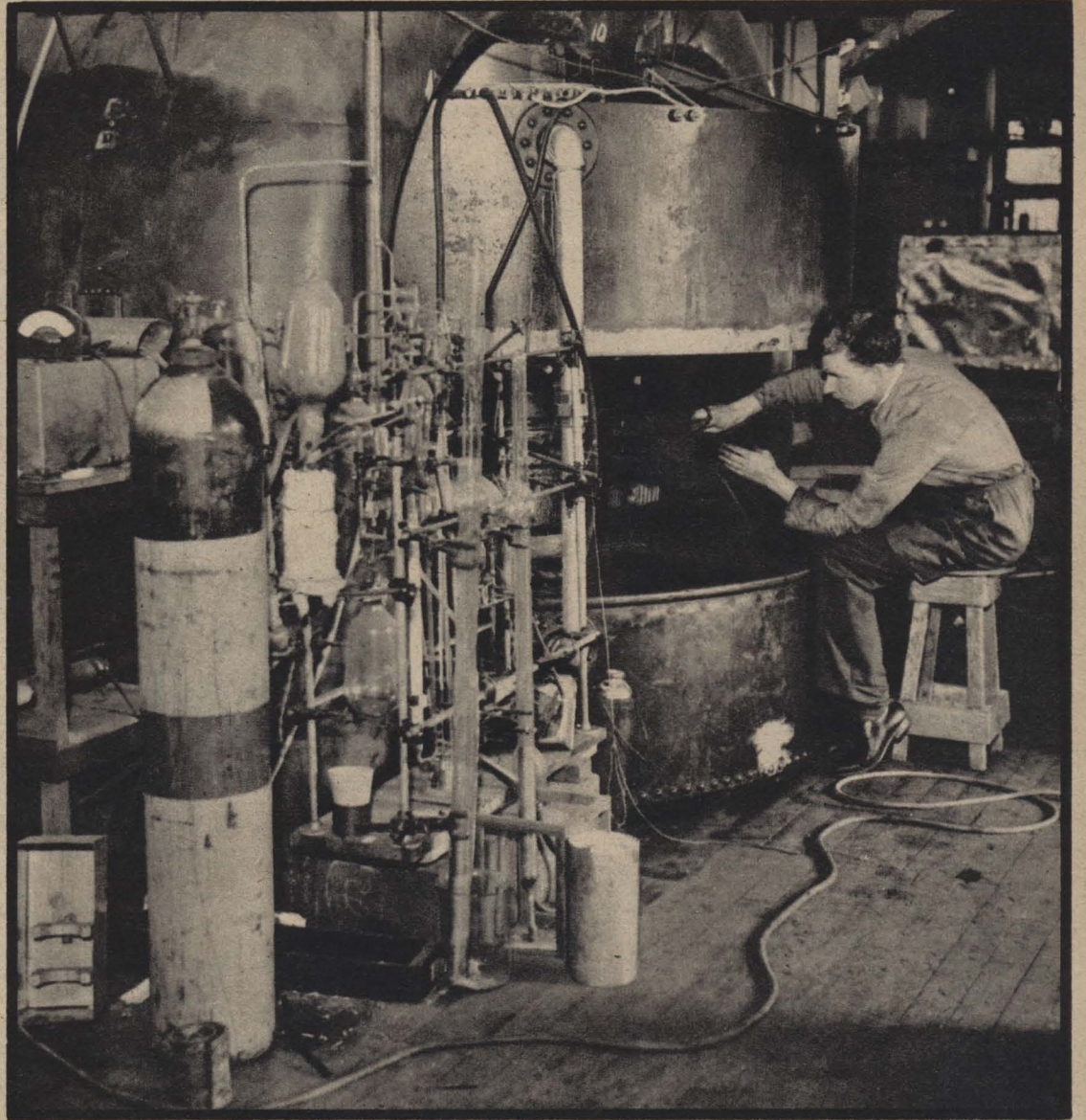
The National Defense Research Committee is actively and vigorously supporting the research in atomic physics that seeks the final secrets of atomic power. Actively, because the world situation means that they must, yet reluctantly because they know better than anyone else can the full and frightful consequences of success. Dr. Vannevar Bush, Chairman of the Committee, has said: "I hope they never succeed in tapping atomic power. It will be a hell of a thing for civilization."



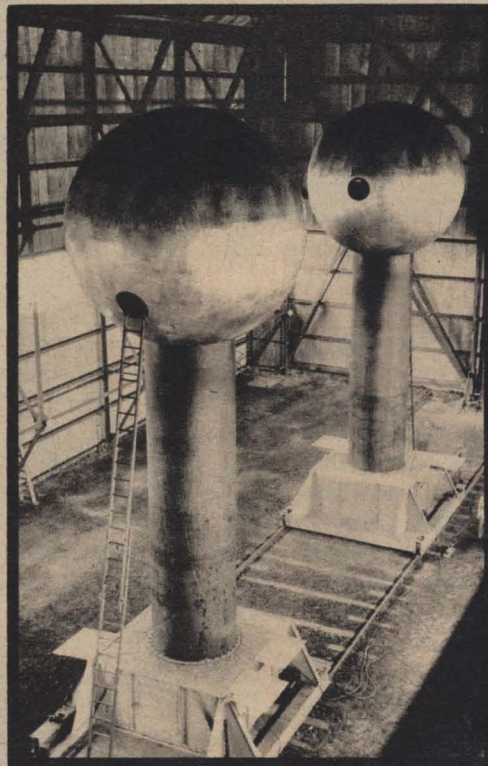
**DR. HAROLD CLAYTON UREY** of Columbia University who worked out the separation of "heavy water" from the ordinary mixture—the first instance of large-scale separation of atomic isotopes



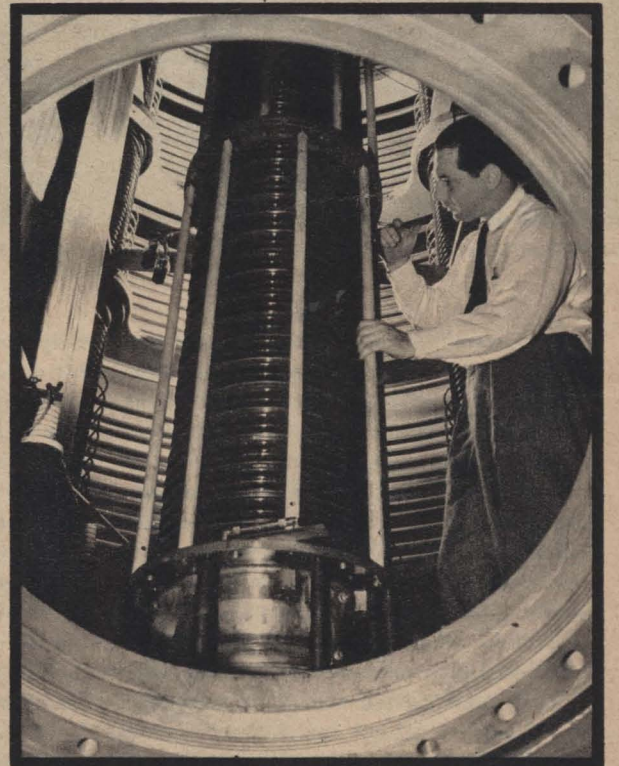
**DR. ERNEST O. LAWRENCE**, American inventor of the cyclotron, the most powerful research tool the atomic physicist of today has to work with. Will Dr. Lawrence succeed in harnessing U-235?



**A CYCLOTRON.** Americans, the world's best gadgeteers, are leaders in atomic experimental research. The cyclotron, which can develop in a concentrated spot a temperature equivalent to that of the center of the sun, is capable of cracking atoms and changing one element to another. Theoretically, gold can be made from oxygen or oxygen from gold. Beam of cyclotron is 14 times more lethal than the X-ray.



**VAN DE GRAFF** high-voltage generator, designed by Dr. Robert J. Van De Graff of M. I. T., the second type of research tool for breaking atoms, develops 7,000,000 volts.



**WESTINGHOUSE'S** modified Van De Graff generator. So powerful are the forces of disintegration set up by the machine that Dr. William Wells here inspecting its innards, must operate it by remote control.