

## Basic Facts of H-Bomb Are Open Book to All Of World's Scientists

Theory of Super-Explosive Was Known to Physicists Even Before Atom Was Split

(Following is the second of six dispatches prepared by the American Society of Newspaper Editors' committee on atomic information in collaboration with the Bulletin of the Atomic Scientists and distributed by the United Press.)

There is no hydrogen bomb "secret," any more than there was ever an American-held basic secret of the atom.

Nor is it a secret to Generalissimo Stalin that the hydrogen bomb is a weapon particularly suited to destroying America's civilization.

A hydrogen bomb, when and if one is built, may be able to demolish New York or Washington in a split second. The United States has many such targets, some within reach of a bomb-carrying submarine or freighter that could creep into a harbor and deposit its cargo.

The Soviet Union has but a few: Its industries are scattered and its major cities land-locked and well ringed by defenses.

These are some of the open secrets about the hydrogen bomb discussed in the issue of the Bulletin of the Atomic Scientists.

When it comes to the H-bomb's basic scientific facts, the fact is there are no facts to hide.

In 1946 the Bulletin of the Atomic Scientists received a copy of a book by a distinguished Austrian scientist named Prof. Hans Thirring. It contained a whole chapter about the reactions on which a superbomb might rely.

Use "Heavy Hydrogen" One week they reprint Mr. Thirring's article, and this week they say:

"These facts were familiar to nuclear scientists everywhere in the world even before the discovery of uranium fission."

An H-bomb, we now learn by reading Mr. Thirring and others, would be made not from ordinary hydrogen—the stuff in your drinking water—but from a rarer "heavy hydrogen" called deuterium. The deuterium will be mixed, it seems likely, with a still-rarer "heavy heavy hydrogen" known as tritium.

You can make small quantities of tritium by bombarding the element lithium with neutrons in an ordinary atomic pile.

While you could theoretically use an infinite amount of hydrogen in the H-bomb, and theoretically make a bomb 1000 times more powerful than the A-bomb, in practice it might have to be far smaller, just for convenience.

If a bomb were 1000 times more powerful than the Hiroshima A-bomb, it could obliterate almost all of Greater New York or Moscow or London.

May Take Years Scientists today know the basic H-bomb theory, but cannot be sure until they try that it will work. Dr. Hans A. Bethe, one H-bomb architect, has predicted that constructing it will take "several years." Other estimates have been shorter.

The H-Bomb, if it works, could easily dwarf today's A-bomb in

## Foundation Gives Total of \$89,000 in '49

13,000 Benefit From Health, Welfare, Educational Funds

The Indianapolis Foundation in 1949 spent \$89,521.17 in extending health, welfare and educational benefits to more than 13,000 persons.

Addition of four new donors to the Foundation permitted expenditure of nearly \$11,000 more than the 1948 total. Director Paul M. Long said today in his annual report.

The new bequests, totaling \$1,204,500, came from John H. Wharton, Mrs. Pearl H. Malott, Charles N. Thompson and the Delavan Smith trust.

Assumption of the bequests increased the Foundation's principal to \$4,487,177, compared with \$2,382,677 in 1948.

**Fourth Bank Added**

A fourth bank, the American National, has been added to the trust banks handling funds of the organization. Others are Fletcher Trust Co., Indiana Trust Co. and Union Trust Co.

Largest contribution by the Foundation in 1949 went to the Community Fund which received \$27,500. The Visiting Nurse Association received \$14,408 and Indianapolis Public Schools \$12,000.

New demonstration programs included the city's first class for pre-school, hard-of-hearing children.

They said we must build dren and their parents, assisting H-bombs, then could be "not only finance construction of the new cost of the bomb, but the fan-tastic cost of proper dispersal." Mr. Lillenthal, former U. S. Atomic Energy Commission group which shows historical Chairman, accused these four scientists of creating "growing hopelessness and helplessness" and arousing "emotions that play into" Communist hands.

"What we said we did not say to scare people, nor did we say it for lack of restraint," replied Dr. Sizard. "The reason for speaking up is rather this: Neither the President nor the Atomic Energy Commission has explained to the American people what the decision to develop hydrogen bombs will involve, what the meaning of the hydrogen bomb, or what the cost of the indispensable defense measures must be. Yet these are the things the people must know."

Cornell's Dr. Bethe and Illinois University's Dr. Frederick Seitz are among 12 physicists who have said the United States should build the H-bomb only if it bowed by the 18-inch sword of pledges never to be first to use it.

**Betrayal of Christianity**

"This bomb is no longer a weapon of war, but a means of extermination of whole populations. Its use would be a betrayal of all standards of morality and of Christian civilization itself," they say.

Yet many scientists would probably agree with Dr. Louis Ridenour, Illinois graduate dean, writing in the current Scientific American:

"Once it is decreed that people are to be killed, the 'moral' question is fully settled. The instruments of that killing are not at all affected with humane or moral questions. It was probably far more unpleasant to be dismembered by the 18-inch sword of the Roman soldier than it will be to vanish in the flash of a nuclear explosion."

**Tomorrow: "Back to the laboratories?"**

## Riding School Romance Leads to Altar



The marriage of Holly Johnson and Evan Coward in St. Lawrence Church, Upminster, Essex, England, got off to a fast pace. Mr. Coward is seen leading his bride mounted on her favorite horse, Iron Duke, after the wedding. The couple met at a riding school, where both are pupils.

## Sacred Heart Gives Nine Cage Awards

Nine basketball awards have been made to members of the Sacred Heart High School basketball team.

They include Ed Butler, Ray Riley, Al Rucker, Gene Hemmeling, Philip Seyfried, John Dwyer, Dallas Kelsey, Don Clark and Harlan Petty.

Petty was named to captain ties.

**REDS SLOW TRUCKS**

BERLIN, Mar. 21 (UPI)—Thirty German trucks were piled up at the Soviet Helmstedt checkpoint 110 miles west of Berlin today by a Russian slowdown of traffic.

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