

## GENERAL SCIENCE

# Secret Device for H-Bomb

► THE GREATEST secret and mystery in atomic energy today is Dr. Edward Teller's "flash of genius" that made possible the H-bomb.

Revealed in the transcript of the hearing before the Atomic Energy Commission's special personnel security board, it is now known that Dr. J. Robert Oppenheimer's criticized technical advice not to attempt the making of the H-bomb was superseded by a discovery that made possible the super-bomb.

It was something that even the most expert had not previously imagined.

Was it an undiscovered property of light chemical elements, perhaps some sort of combination of lithium and the double weight hydrogen, deuterium?

Was it a way of producing extremely high temperatures, billions of degrees, without exploding an A-bomb or a fission bomb? Perhaps this could be done by exploding metallic wires with heavy jolts of electricity.

The most valuable secret about the H-bomb was unmasked when it became known that there had been an actual explosion of an H-bomb.

This recalls the fact that it had been said early in the atomic bomb program that the greatest secret revealed after the end of the war was the fact that the atom bomb actually did explode. Until there had been an explosion of a uranium bomb, the scientists as well as the military men of all nations were not absolutely sure that the atom bomb could be made.

This was equally true with the hydrogen bomb.

Since the Russians have presumably exploded a hydrogen bomb, whether of the same kind that we have or not we do not know, it may now be possible to tell the world a little more about what actually did happen in the development of the H-bomb.

Highly respected scientists have raised most seriously the question as to whether it might not be wise to tell much more about current progress in atomic energy, even things that are now classified super-secret, in order that many of the fertile scientific minds throughout the world may be able to build upon this new and novel information and thus speed the application of atomic energy to peaceful purposes.

It is quite possible that Dr. Teller's development hinted at in the Oppenheimer controversy may be the key to the actual application to peaceful purposes of the hydrogen bomb reaction. Power will be obtained for industrial purposes from uranium, although the power program has been sidetracked for a considerable number of years by military necessity. However, if energy can be obtained from part of the mass of the light and relatively plentiful elements, such as lithium and deuterium, and if it can be done without a tremendous explosion, then the door has been opened to a much better industrial application of

atomic energy than has ever been contemplated before.

What this country needs now is a Smyth Report on the hydrogen bomb similar to the famous report which Dr. Henry D. Smyth, now an AEC commissioner, published in 1945 telling about the A-bomb development.

There is real reason to believe that telling more facts and so-called "secrets" rather than bottling up current research, as is now being done, would pay dividends even to our own military program by making possible new and fertile developments by those who are now excluded as so many are from the Q-clearance councils of our atomic energy program.

Science News Letter, June 26, 1954

## GENERAL SCIENCE

## Science Editorial Hits Oppenheimer Decision

► THE SECURITY regulations under which Dr. J. Robert Oppenheimer's access to classified information was suspended by the Atomic Energy Commission are on trial as well as the scientist himself, Dr. Dael Wolfe charges in *Science* (June 18).

*Science* is the weekly magazine of the American Association for the Advancement of Science, an organization of some 250 scientific groups whose members total nearly 1,000,000.

A special security review board held two-to-one that Oppenheimer was "loyal" and "discreet" but that he should be barred from atomic secrets. The board findings are now before the five AEC commissioners for a ruling.

One point made by the two-man majority in recommending against restoring Oppenheimer's Q-clearance was his conduct in the hydrogen bomb program, particularly for not "enthusiastically" supporting it.

The implications of the criterion of "enthusiasm" as a basis for security clearance are "grave and frightening," Dr. Wolfe says.

"Adherence to such a doctrine," he points out, "will dampen free discussion—not only in public but in secret councils.

"Who wants to risk such drastic punishment, years after a decision was made, for having honestly opposed the decision before it was made?" he asks.

Other members of the AEC's advisory committee who agreed with Oppenheimer in opposing a crash H-bomb program at one time could face the same fate, Dr. Wolfe points out.

He says that hearings before the security review board in the Oppenheimer case were conducted in a "democratic" and "judicial" way, for which "the country can take great pride." However, Dr. Wolfe notes that the procedure "brings out some of the diffi-

culties of the security regulations, some of the troublesome aspects of the attempt to judge who is a security risk, some of the tremendous cost to the nation that must lose the services of a uniquely qualified adviser in order to comply with regulations of unknown validity and perhaps temporary applicability.

"The majority report leaves the status of Dr. Oppenheimer in doubt. It also leaves doubts about the security regulations under which he was judged," Dr. Wolfe concludes.

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