

# Pathfinder

## NEWS MAGAZINE

February 8, 1950: 12

### The Hell Bomb

"It is part of my responsibility . . .," said the President of the United States, "to see to it that our country is able to defend itself against any possible aggressor."

After months of conferences, debates and studies, the plain little man from Missouri made up his mind on Tuesday. The U.S. will make the Hydrogen "Hell" Bomb. Short of ordering its use, the decision was the gravest Harry Truman had made since he directed the blasting of Hiroshima. To his countrymen and to unnamed aggressors he had, in effect, said that the moral responsibility for making the most terrible weapon ever devised by science was not too high a price "for the peace and security of the U.S."

There was much uninformed disagreement on just how powerful the "Hell Bomb" could be, how much it would cost, how big an area such a bomb would destroy. There was complete accord on only one thing: It would be the most terrifying and destructive weapon of war mankind ever had produced.

The project has gone as far as it can on paper. What remains now is to make it. It could be made 10 times more powerful than the Hiroshima bomb, or 100, even 1,000. Actually, it can be made  $N$  times more powerful, with the maker supplying his own multiple for  $N$ .



Wide World

**President Truman.** *He alone decided to make the "Hell Bomb."*

**Exterminator.** On the same basis, a hydrogen bomb could cause damage almost without limit. The Nagasaki plutonium bomb affected an area of 10 square miles. The new weapon could destroy an area of 100 or 1,000 square miles. Loss of life can be figured on the same sliding scale. At Hiroshima, more than 78,000 persons were killed. Death from the H-bomb would multiply that figure by 10 or, more horribly, by 100. There is no known technical reason why such a bomb could not, fairly easily, destroy all of New York City. The bigger a hydrogen bomb is, the more efficiently it explodes.

The idea of a hydrogen bomb (which would be strictly a war weapon, with no known peacetime use) is not new. The basic principles behind it were worked out by scientists in Britain, Germany, Sweden and elsewhere in the early 1930's. Probably the explosive ingredient would be either lithium hydride, a fairly cheap, light, stable solid, or heavy-hydrogen paraffin, which might be more efficient but probably more expensive.

**HELL-BOMB**

Even the notion of a U.S. H-bomb project is nothing new. In December 1946, John J. McCloy, former Assistant Secretary of War, told the annual convention of the Association of Life Underwriters: ". . . Given the same intensive effort which was employed during the war toward the production of that [atomic] bomb, we were within two years of producing a bomb of the hydrogen-helium type, approximately 1,000 times the power of the present bombs."

There is something of a problem in how to deliver the H-bomb. The three B-29's which up to now have dropped atom bombs succeeded in getting out of the damage area before the blast. Still the crews felt the shock as the outer edge of the blast-wave touched them. Existing bombardment methods are obviously not applicable to the H-bomb. A pilotless jet bomber may be one answer. Or, conceivably, it could be delivered delayed-action style, with a time fuse.

**Plutonium Cue.** There is, nuclear engineers point out, a factor which limits the production rate of H-bombs, here or elsewhere. It is the production-rate of A-bombs. An A-bomb is an essential working part of any H-bomb, since the heat it generates (at least 15,000,000° C.) is the only way to trigger the vaster explosion of the hydrogen-fusion bomb. Until uranium fission was a reality, hydrogen-fusion was merely something that kept the sun burning.

On the desirability of building H-bombs, there have been three schools of thought. Group I, led mostly by peace and church organizations, favored shelving the whole idea. Group II, headed by retiring Atomic Energy Commission Chairman David E. Lilienthal, and probably backed by most scientists, urged one more attempt to negotiate with Soviet Russia on international atomic control before the new project gets under way. Group III, which includes most Congressional and military leaders, said make it now, as quickly as possible, then open negotiations with Russia, thereby keeping the lead in the atomic sweepstakes.

Opponents of the H-bomb argued on moral premises. They said a uranium bomb could do a thorough enough job of destroying a city; why make something even more destructive? Secondly, why make something that the U.S. doesn't intend to use? Instead, spend the time, effort and dollars developing the unlimited peacetime uses of atomic energy.

**Small Choice.** But pro-bomb partisans argued that the U.S. could not afford to pass up the chance to make H-bombs promptly, especially now that Russia has an atomic bomb of her own. This group had three strong backers last week: a soldier, a statesman and a scientist.

Omar N. Bradley, chairman of the Joint Chiefs of Staff, said: "We dare not refuse to rub the Aladdin lamp of scientific discovery because we are afraid of the genie that might spring forth."

Statesman Bernard M. Baruch, former U.S. representative on the U.N. Atomic Energy Commission, said: "If you knew of any instrumentality to defend your life, would you try to get it? The question answers itself."

Scientist Harold C. Urey, who discovered heavy hydrogen and helped develop the atomic bomb, said: "I am very unhappy to conclude that the hydrogen bomb should be developed and built. . . . I value my liberties more than my life."

It still remained to be seen what Soviet Russia would do. The President did not slam the door on hoped-for U.N. atomic control. But he made it clear that the U.S. would continue its atomic researches independently until Russia accepts international control of atomic energy.

Moreover, it had to be assumed

**HELL-BOMB**

that Russian scientists know the theory of the H-bomb. One of the world's leading authorities on the nuclear behavior of hydrogen and other light elements is a Russian, Dr. Peter Kapitza. Dr. Urey said glumly: "We may have already lost the armaments race."

**Arms Without Aim**

Ex-professor Omar N. Bradley had an attentive class last week—the Senate Foreign Relations committee.

The high-domed, high-voiced, five-star General, who is chairman of the Joint Chiefs of Staff gave his lecture in private, but afterwards his pupils tattled to the press. Bradley had told them that the island of Formosa would be of "strategic significance" to the United States if an enemy captured it—but had added that the United States should not try to prevent an enemy from capturing it. Thus awkwardly Bradley, accompanied by his top kick, Defense Secretary Louis A. Johnson, made grudging surrender to the Administration's new Far Eastern policy.

Faced with this collapse of one of their principal arguments, Congressional critics of the policy were forced to give ground. For the time being their rumpus over the decision to abandon Formosa and the Chinese Nationalist government calmed into at least a lull. Some seemed satisfied with the House's action in killing aid to Korea. Secretary of State Dean Acheson appeased them further by promising that Chiang Kai-shek would receive funds already appropriated for China but not yet expended.

**Enter Mao-ism?** Also, the Russians gave Acheson a chance to say, "I told you so" on at least one phase of his policy—his attempt to drive a wedge between Moscow and the Chinese Communist government of Mao Tse-tung. Soviet Foreign Minister Andrei Vishinsky issued a savage reply to Acheson's charge that Russia is "detaching" the four northern Chinese provinces. Vishinsky called the charge "this lying and crudely slanderous declaration" and countercharged that Acheson was attempting to "hide behind a slanderous smoke screen and place on the USSR responsibility for the failure of his own policy. . . ." Apparently the wedge was working.

**Pact Aid.** In Europe, where communism is still the chief target in the cold war, the U.S. was making progress with the Atlantic Pact. It signed agreements for transfer of American military equipment to Belgium, Denmark, France, Italy, Luxembourg, the Netherlands, Norway and the United Kingdom. First shipments would begin around Mar. 1.

This might be none too soon. In Berlin the Russians were holding up truck traffic in what looked like a renewal of the blockade. In the Far East, their guerilla bands in French Indo-China would cost France \$500 million this year, 35% of her military budget. Perhaps only Atlantic Pact assistance could prop France back into her place as one of the keystones in the European security arch.