

# Books

## *The Legacy of Hiroshima*

by Edward Teller with Allen Brown  
Doubleday and Company . . . \$4.95

Reviewed by Cushing Strout, associate professor of history

A brilliant scientist and influential fighter in what C. P. Snow has called "the corridors of power," Dr. Edward Teller has resigned as director of the Livermore Laboratory to use his considerable power of persuasion on the public mind. "The legacy of Hiroshima," he thinks, has been a pessimism about the nuclear age which has crippled America in the "cold war." Scornful of test-ban and disarmament negotiations, Teller urges a program of continued testing, public shelters, and limited nuclear war. Seldom has a self-styled optimist presented such a gloomy brief for "progress."

Teller first played a major role in nuclear policy during the struggle over the decision to make the H-bomb in 1949-50. During the war he had worked at Los Alamos, but his obsessive concentration on the problems of a thermonuclear reaction had sidetracked him from the top-priority effort to produce the atomic bomb. The decision of the General Advisory Committee of the AEC to oppose in 1949 a crash program for the development of the "super" provoked him into strenuous advocacy of his long-cherished dream of making an H-bomb. He took his case to the Joint Congressional Committee on Atomic Energy, the AEC, and prominent Air Force scientists and generals, interested in strategic bombing as the key to national defense. In June 1951 he presented a new approach which convinced previous skeptics that he had found a feasible method for developing the new fusion weapon, a thousand times more powerful than the fission bomb.

Passionately dedicated to his own ideas, Teller does not forgive fellow-scientists, like Oppenheimer, Fermi, and Bethe, for their skepticism. He is sure that if they had been as enthralled as he was with the dream of making an H-bomb, the United States could have developed it sooner. The

short answer to this charge is that one of his strongest defenders, Lewis Strauss, former chairman of the AEC, told reporters in August 1960: "We developed the hydrogen bomb in about three years, which is certainly par for the course. I think surely it was developed as soon as the most optimistic thought it could be done."

### *Some ironies*

There are many ironies in this backstage drama. It was Robert Oppenheimer who secured a clearance for Teller to work at Los Alamos (he had relatives in occupied Hungary); it was Teller and his powerful supporters who testified adversely against Oppenheimer in the hearings before the Personnel Security Board which in 1954 branded him a security-risk who had supposedly failed to give "enthusiastic support" to the H-bomb program. (This gamey episode of the McCarthy era, which still rankles in the scientific community, is conspicuously missing from Teller's story of his career.) Teller did not appreciate the military and political reservations which led the skeptics of the "super" to worry about the needs of a balanced defense system and therefore to pay attention to the tactical use of atomic weapons and continental air defense. Now he pleads for tactical use of nuclear weapons in limited war and opposes the Dulles theory of strategic "massive retaliation" which the crash program for the H-bomb helped to stimulate.

### *Limited nuclear war*

Teller wants continued testing in order to further develop mobile nuclear weapons for tactical use against enemy forces in the field. He is convinced that only first-use of these weapons, in wars with limited objectives in limited areas, can stop the Soviets. He argues, however, that limited nuclear wars should only be fought in aid of governments which are strongly rooted in popular support and clearly committed to our side. But these political conditions apply mainly to Western Europe, and it is in these densely populated areas that it would be most difficult to dis-

criminate military targets from industrial and civilian centers. Where the stakes are so high a Teller-war might all too easily "escalate" into a major conflict. His strategy appears to make military sense only in areas which fail to meet his own political conditions.

Teller calls himself an optimist, but the label is only half-true. He finds current science fiction too pessimistic, yet his optimism has a science fiction quality. He says nothing about the dangers of accidental war through misunderstanding, provocation, or "escalation"; he is confident that the whole American industrial plant could be rebuilt, after total devastation, in merely five years; and he assures us that mutations produced by fallout will ultimately be beneficial, though "offensive at first sight."

### *Some Soviet successes?*

The other side of this curious cheerfulness is an equally exaggerated pessimism about the Western position in the cold war. He credits the Soviets with much more success than they have earned: "World Communism, up to now, has gone from victory to victory." Is Khrushchev really pleased by the Yugoslavian, Chinese, and Albanian rifts in the Communist camp? Is he happy to have been compelled to crush the Hungarian Revolution? Can he take any pleasure in the demonstrated failure of the East German regime to hold the loyalty of its people? Does he gloat over the astounding economic revival of Western Europe? If these are Soviet victories, he should pray for defeats. Teller admires the real achievements of Soviet science and education, but he is as gloomy about the status of the American scientist as if this were not the age of the Affluent Professor, the powerful scientific adviser, and the post-Sputnik infatuation with science.

Teller's tone throughout his book is that of a voice crying in the wilderness. But, by his own record, the wilderness is Washington and the voice has been heard. His agitation for a "second laboratory" at Livermore was successful, though Los Alamos actually built the H-bomb. Lewis

*continued on page 8*

# When is an Engineer a Portrait Painter



The answer is ALWAYS. His whole professional life is involved with sketching, drawing, drafting and rendering pictures of his ideas.

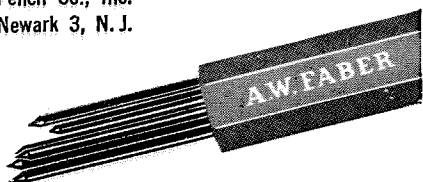
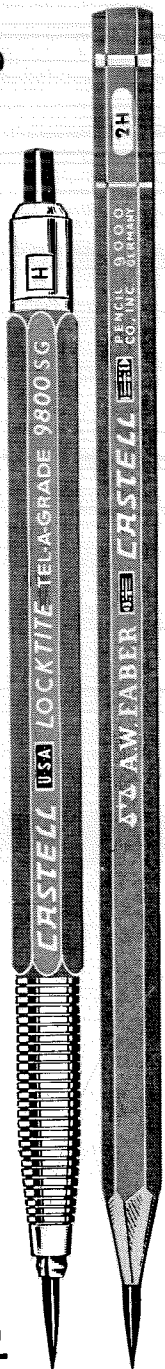
The working tool that gives the best graphic representation of his ideas is world-famous Castell #9000 drawing pencil. Milled by the exclusive microlet process for graphic saturation, it gives bold density of image. It glides across the paper without stumbling over gritty spots. Exceptionally strong in needlepoint or chisel point, it won't break under heavy pressure. Castell's 20 superb degrees, 8B to 10H, are controlled to a rigid standard of uniformity.

Many student and working engineers prefer Locktite Tel-A-Grade Holder with Castell #9030 Lead, identical in grade and quality to Castell drawing pencils.

Since engineers must rely on graphite to give expression to their ability, you'd be wise to use Castell, the drawing pencil of the masters. Make your selection at your college store today.

## A.W.FABER-CASTELL

Pencil Co., Inc.  
Newark 3, N. J.



## Books . . . continued

Strauss took him to President Eisenhower in the summer of 1957 to make the case for continued testing in order to develop a "clean" bomb; and Teller had the sympathetic ear of his friend John J. McCone when he was chairman of the AEC. In the mass media, Teller's views are given very respectful attention, and the current pressures for resumption of atmospheric testing and for a fallout shelter program reflect his doctrines.

He pictures an imaginary American chorus of unilateral disarmers and conjures up the bogey of "a surprising number of people who profess a preference for crawling to Moscow in surrender rather than risking the dangers of nuclear war." In sober fact, where do such people have influence, outside the pages of popular novels like *Advise and Consent*? Most Americans who have realistic worries about nuclear war are fearful that they may be the real voices in the wilderness, while the nuclear "optimists" whisper in the ears of men of power.

### Some inferences

Teller has an unscientific tone of dogmatic certitude about matters in which, like the test-ban, he has no real interest. He was sure that the Soviet Union during the moratorium on testing "never did stop nuclear tests but was conducting experiments all along." Open testing by the Soviets has merely confirmed his opinion, and he is now sure that the Russians are ahead of the West in arms developments. These inferences are not provable. There never was any scientific evidence that the Soviets were secretly testing during the moratorium, and advocates of the test-ban were not, as he seems to think, deluding themselves that they had found a foolproof system. They were balancing estimated risks and seeking a limited system of inspection to deter cheating, to check nuclear diffusion, and to inhibit the arms race. They were looking primarily for a first step to test good faith and to provide a symbol of serious interest in later disarmament negotiations.

Teller joins other men of good will in praising the Peace Corps, cultural exchange programs, nuclear sharing with our allies, the Common Market,

and UN police actions. But on these topics he has little to say that is searching, detailed, or original. For the rising insecurity produced by the arms race he has no practical or concrete solutions. He preaches World Government and "openness" in all societies as the one true answer, but this simply substitutes long-range goals for hard thinking about the steps that might move us from a precarious present towards a more secure future. Hailed in some quarters as a hard-headed "realist," he shows himself in this book to be a utopian who fails to appreciate the close connection between means and ends.

C. P. Snow has praised scientists for their built-in sense of the future, which policy-makers neglect at their peril. *The Legacy of Hiroshima* is vivid proof that the vital point is what kind of a sense of the future the scientific adviser has. Teller persuasively criticizes the atomic bombing of Japan without warning, but this admirable feeling for missed opportunities to restrain the use of violence seems to have faded away with his dedication to the H-bomb. Other scientists, including several who played an important role in the scientific evolution of the thermonuclear bomb, have a quite different sense of the future. It worries some of us that during the last ten years they have had less influence than Teller in "the corridors of power."

### ALUMNI BOOKS

#### *Flora of the Santa Cruz Mountains of California*

by J. H. Thomas '49

Stanford University Press . . . \$8.50

#### *Flora of the Alaskan Arctic Slope*

by I. L. Wiggins and J. H. Thomas '49

University of Toronto Press . . . \$9.50

#### *Structural Design of Missiles and Spacecraft*

by Lewis H. Abraham MS '40, Chief, Strength Section, Missiles and Space Systems Engineering, Douglas Aircraft Co.

McGraw-Hill . . . \$12.50