

# War, A-Bomb Disintegrates Ivory Tower of Scientists

(Editor's note: Just what is the scientific mind? Is it different from the average mortal's? Does the scientist live in an ivory tower, cut off from worldly doings? Many of them once did, including Dr. J. Robert Oppenheimer. But no more. Now urgency and political implications have replaced the old feeling of leisurely experimentation.)

By ALTON L. BLAKESLEE  
Associated Press Science Reporter  
NEW YORK — The Ivory Tower of many scientists came crashing down with the war and the blast of the A-bomb.

The picture of the bearded, absent-minded professor was never fair or apt for most scientists. But before the war many led a cloistered life, preoccupied with their work.

Now that has changed into a life with new problems, attitudes and responsibilities.

It was so far Dr. J. Robert Oppenheimer, now denied access to the growing store of atomic weapons knowledge he did so much to create. But Dr. Oppenheimer, "Oppy" to his friends, was looking beyond the tight ivory tower walls by the time war came.

Never Reads Paper

Until 1936, he says, he never read newspapers or magazines, was "almost wholly divorced from the contemporary scene in this country." Then Nazi treatment of Jews, the effects of depression on his students, impressed him and "I began to feel the need to participate more fully in the life of the community. But I had no framework of political conviction or experience to give me perspective in these matters."

Another atom scientist admits "before the war I never paid any attention to politics. In fact it was Oppy who once told me I was naive politically."

A prominent physicist says "our war work with radar, the A-bomb, and other weapons helped many scientists learn a lot about the rest of the world."

"We met average guys in trenches, aboard ships, in bombardier training programs, in big industrial companies charged with mass producing our inventions. I didn't see any inability by scientists to pick up an understanding of people and the facts of life."

"And many other people learned that scientists weren't just dreamers or impractical guys."

This call to war duty, using their scientific knowledge to defend the country, was one reason for a change in many scientists.

"Sense of Sin"  
Some, once they had made the A-bomb, felt a "sense of sin," and became publicly concerned with the moral, social and political implications of their fearsome invention.

Almost overnight, most of them found that work they had learned to do leisurely took on great urgency. The old time lag was shortened.

A discovery of a basic fact or truth quickly became a practicality, important to national or international policies.

Many who had long discussed their work openly—even with the limited number of others who could understand—found themselves behind a curtain of secrecy.

Vignettes from the memories of some men important in the atomic energy project give some of the flavor of this change which overtook the scientific world, whether or not housed in ivory towers. These men talked freely, with the understanding they would not be quoted by name.

Los Alamos, birthplace of the workable A-bomb "was a strange place, created from nothing—it gave me a funny feeling," said a physicist who was stationed there.

Oppenheimer directed it and "it took on his personality. Enthusiasm was enormous, optimism was high, and it was all Oppy's doing."

"He's a dynamic guy, full of energy, talkative, and he always makes sense. He wins great admirers, and makes fairly bitter enemies. At the University of California, his students worshipped him. You could recognize many of them by the way they imitated some mannerism of his in walking or talking."

"Oppy impressed me as a man who thinks he has the Indian sign on life. He is a master of language, and whatever he starts to do, at times he gets dogmatic. He's pretty sure of himself in general, and not very humble."

"He soon takes charge of things, and can summarize matters neatly. Sometimes you find it hard to think in his presence. He tends to stifle your thinking at times with the flow of his own words and ideas."

"He didn't run Los Alamos as a dictatorship. At meetings of the scientific staff to discuss some problem, anyone could talk, no one was shut out. But when he had to, Oppy made the decisions."

Felt Strongly About War  
"He felt strongly about the war, and the threat from the Germans. I don't know whether he had a clear view of the Russians, or the future threat from the Russians. But I think Oppy is able to see a whole picture, just as he does in physics."

"I think he had strong moral scruples about making the bomb. Many scientists there developed a strong sense of sin about the bomb."

"Others took the view that if we hadn't made it, someone else would. Very few had in mind then the Russians some day might be our enemies, for the Russians were our allies."

"Some men at Los Alamos got together to talk about the social consequences of the bomb, what would happen after the war, how the bomb could be controlled."

"I think Oppy tried to discourage too much of this thinking, taking the attitude the main goal was to make the damned thing go off, and that the work might bog down if they got to thinking too much about the moral side of it. That seemed to be his general advice to men who were feeling restive."

A chemist prominent at Los Alamos agreed "Oppy was the driving force, due to his personality and intelligence."

Good Judgment  
"Oppy either already was or developed into an effective personality, dealing with problems, personal or scientific, with good judgment, restraint, humor and inspiration."

"He just knew more than anyone else about everything, knew the right way to handle situations. We used to joke that after the war he ought to get on the radio program information please as a career."

Conscience seems to weigh more heavily upon the scientists whose particular work concerned making the weapon, the bomb, itself, rather than work which contributed to atomic energy which could be used for war or peace.

Some felt they had created the bomb and held it in their hands. Others, that what they did could be used for good or bad.

A physicist thoughtfully brought up another aspect of how people may be looking at scientists:

"In wartime, we scientists realize our work has to be done to defend our country. If real peace were established, I think there would come an unbelievable reaction against scientists."

"People might feel, 'we escaped destruction by the skin of our teeth, and it was the scientists who got us into it. We don't need or want scientists anymore. They brought us to the brink of destruction.'"

Bomb Possibility  
It was scientists, not military men, who saw the possibility of an atom bomb, or atomic energy to run factories or do useful things. They saw this as early as 1939, when uranium atoms were split with tremendous release of energy in laboratory experiments.

German scientists could see the possibilities, too, British scientist did. So undoubtedly did some Russian or top physicists in other countries.

It was a letter to President Roosevelt, signed by one of the most ivory tower of all scientists, Albert Einstein, which began our atomic project, carried on with great help from British scientists.

There were some maddening delays at first, although brilliant mathematical calculations showed that a chain reaction was possible.

"It took a year and three conferences with government officials to get \$2,000 for the graphite for pile experiments," a top physicist recalls. "Today you can get many times that amount of money for experimental work, by a snap of your fingers."

The chain reaction was achieved in December, 1942, in Chicago. Scores of men contributed brilliant steps as great laboratories and plants sprang up and difficult problems were solved.

There were missteps or steps unnecessary — by hindsight — in the rush to achieve under the lash of war what otherwise would have taken years to accomplish.

"Sense of Urgency"  
"There was a sense of urgency, and everyone worked as hard as he could, in really splendid cooperation," said a physicist. "We knew the Germans were interested and capable. We had to do it first."

"There were complaints about delays and seeming inefficiencies or interferences by the military or other scientists. One man described it as trying to swim in syrup."

"This same physicist is agnostic at the lack of national unity in the face of the threat he sees from Russia."

"We are not united as we were after Pearl Harbor. Most people realize there is danger from Russia, but as long as we feel it is not a very immediate danger, we feel it is not so bad."

"We are at war. I would not be surprised if we are punished for our lethargy in setting up civilian defense by utter destruction."

He didn't sound like someone living in an ivory tower.

"Oh, scientists are far from the ivory tower," he declared. "Look at this pile of mail on my desk. Before the war I received about one letter a day. Now there are many things to read not only in science but bearing on the implications to society, or upon things upon which I am asked to give advice."

"No Ivory Tower"  
Said another: "I think there's been no ivory tower since 1942. Maybe we were better off with the so-called ivory tower, when we had more time for reflection upon science. Now I can't keep up with my scientific journals. But in those old days, we couldn't build the costly cosmotrons or other machines we can get today to advance knowledge."

A famous man in atomic energy spoke of the time lag between discovery and application.

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