

My Personal Experiences with Oppenheimer

Kenneth Watson

1. Institute for Advanced Study

I was at the Institute during 1948 and 49 as a Postdoctoral Fellow (A post doc position is an analogue of residency for an MD). I was one of 7 or 8 who were brought by Oppenheimer for post PhD study (Oppie had come to Institute from Berkeley in July 1947).

Oppenheimer was a colorful and stimulating instructor. Although he was away a great deal, he was conscientious in seeing us regularly. The scientific research at the Institute was entirely mathematical—there was no experimental work done there. Being at the Institute was a great privilege and my career got a major boost from my training with Oppie at the Institute. I am very much indebted to him.

As we learned from the book, Oppie was becoming deeply involved with the H-bomb controversy in 1948-49. We post doc fellows were working hard to establish ourselves and were largely unaware (and not interested) in such political issues as the H-bomb development.

Elaine used to push our son Ron in his baby carriage on the Institute campus, often coming for afternoon tea. She frequently encountered Einstein out for a walk. Einstein would sometimes walk with her and push the carriage.

2. Berkeley [Edward Teller has been identified as the principal scientist opposing Oppenheimer. He has also often been identified as “the father of the H-bomb”. [However, Stan Ulam at Los Alamos deserves at least equal credit for this.]

Edward Teller was a Professor of Physics at UC Berkeley. Teller visited the Institute in 1949 and Oppie recommended me to him for further postdoctoral studies at Berkeley following my Institute sojourn.. We were at Berkeley for two more postdoc years during 1950-51.

At Berkeley I reported to Bob Serber. (Recall that Serber and his wife Charlotte were close friends of the Oppenheims both before the war, at Los Alamos, and later. In fact, they were probably the best friends that the Oppenheims had among the scientists. The Serbers had a sailboat at the Berkeley marina.) The scientific emphasis at Berkeley tended more to experimental than mathematical work—and my two years there significantly helped round out my professional background.

The big push to develop the H-bomb was underway while I was at Berkeley. Senior members of the Physics Department (Lawrence, Alvarez, Teller, etc.) by 1950 began lobbying for a new laboratory for a crash program to develop the H-bomb. Very active planning for the new Lab was being done while I was there. We were being pressured to take jobs with it, but I thought my career development would do better in an academic environment. The controversy with Oppenheimer was developing in Berkeley at this time.

3. Return to Berkeley

From 1952-1957 I was in the Midwest, first at Indiana U, then the U of Wisconsin. During these years I frequently saw Oppie at scientific meetings—particularly the “small, by invitation only” annual Rochester meetings. (Oppenheimer attended these meetings—Teller sometimes did, and we then looked forward to seeing sparks fly) Oppie played an active role in discussions at these.

I was offered a Professorship at Berkeley, which I took in the fall of 1957. At that time Berkeley, Harvard and Stanford were competing each year to be the #1 ranked physics department in US. I was very grateful for this position and felt motivated to do public service. (I remained at Berkeley until 1981, when I transferred at age 60 to UCSD and a new career in Oceanography at SIO.)

Edward Teller was an active and prominent member of the Berkeley faculty and naturally I saw him often. We both were in Washington frequently (for a period of several years I averaged one trip a week to Washington). The Physics Department at that time had a specific junior faculty position; the one duty of the incumbent was to take Teller's and my classes when we were away. There was also a driver assigned to take Teller or myself to the

Airport or out to the Lawrence Livermore Nuclear Weapons Lab. Teller and I shared a suite of offices in the Director's complex at the Lab. I also had offices at the Lawrence Berkeley Lab and on Campus.

The nuclear issues that Oppenheimer was arguing in the early 50s were pretty much settled by the late 50s and early 60s. The views of Strauss and Teller had prevailed. The H-bomb was a reality and our strategic defense policy was based on Mutually Assured Destruction (MAD).

To quote loosely from Herb York's talk: *It is somewhat ironic that the H-bomb was debated as a super weapon with 1000 times the power of the Hiroshima bomb. It turned out to be scalable in size and really was **just a much better way to build a bomb**. The largest bombs to have real military use were no more than about 100 times the yield of the Hiroshima weapon.*

In the 60s I had some experience with both strategic weapons and MAD. For example, during the Eisenhower, Kennedy, and Johnson administrations I was on the President's Science Advisory Committee Strategic Military Panel. I was also on the Air Force Scientific Advisory Board, and I was chairman of a committee of the Joint Chiefs charged with implementing aspects of MAD. If questions come up regarding these issues, I will be glad to speak to them.

4. Some later miscellany

The last time I saw Oppenheimer was about a year before he died. I had given a seminar talk that afternoon at Princeton. After the talk Oppie came up to me to invite me to dinner at his house that evening. I was pleased to go and enjoy his famous martinis and discussion. Oppie seemed surprisingly hawkish. For example, he expressed strong opposition to the treaty that would totally ban nuclear weapons testing.

The last time I saw Teller was about 20 years ago. He had spent a day visiting and talking at UCSD. I was asked to drive him to the Airport. On the way, as we reminisced on variety of subjects, Teller suddenly blurted out "Ken, I really hated Oppenheimer".

Bob Serber: He left Berkeley for Columbia University, where he remained until retirement. His wife Charlotte died and when Oppenheimer died, he lived with Kitty Oppenheimer (as described in the book). After Kitty died he returned to NYC, where he married a very young woman. They had a child when he was in his 70's. Serber died a few years ago.

During the 1930's Oppenheimer established the first world-class school of theoretical physics in the USA. This was perhaps his greatest achievement. It was no longer thought important to go to Europe for an education in science.

October 5 2006