

COMMENT

## SCIENCE AND LIES

ON 6 AUGUST 2006, THE WORLD commemorated the dropping of the atomic bomb on the historic Japanese city of Hiroshima. While this was a military triumph for the United States, for scientists, including Albert Einstein, it was a tragedy.

A new weapon of immense power had been unleashed on the world, aided by scientists under the misconception that Nazi Germany was about to develop a nuclear weapon itself. The weak state of the Nazi programme was partly due to a secret pact by key German physicists. Scientists working on the US programme, however, were kept uninformed of the actual state of the Nazi programme.

In August 1939, in the approach to World War II, Albert Einstein signed a letter to US President Franklin D Roosevelt stating that through recent work in nuclear physics 'it may become possible to set up a nuclear chain reaction in a large mass of uranium...This new phenomenon would also lead to the construction of...extremely powerful bombs.' The letter stated that 'Germany has actually stopped the sale of uranium from the Czechoslovakian mines which she has taken over', and called for a 'watchfulness and, if necessary, quick action on the part of the [US] Administration'.

It was not the threat of Germany at war, but the threat of the German regime having uncontested control of the atomic bomb that caused concern to a number of nuclear physicists, including several refugees from Nazism. The 'Einstein letter' was organised by one such physicist, Leo Szilard, and presented to Roosevelt on 11 October 1939. 'I really only acted as a letter-box. They brought me a letter all ready for signature and I simply signed it,' Einstein later explained to biographer Antonina Vallentin.

Szilard was afraid of Nazi Germany getting the atomic bomb, but hadn't been able to convince the US government that the new weapon was practical. In *'Brighter Than a Thousand Suns'*, published in 1959, Robert Jungk examines the events surrounding the US nuclear programme. He details the actual state of nuclear weapons' development in Germany at that time and shows that Hitler's forces were nowhere near developing the atomic bomb.

'Four factors must have combined to frustrate the construction of a German atom-bomb. In the first place the absence of eminent physicists driven into exile by Hitler now proved to be a severe handicap. Secondly, the poor organisation by the National Socialists of research in the interests of war and its inadequate recognition by their Government, and thirdly, the technical difficulties of so complex a project, were further obstacles. But above all, in the fourth place, the actual personal attitudes of the German experts in atomic research who had remained at home counted against success'.

Jungk describes how several groups that could have followed up the possibility of developing nuclear weapons came not to. He states, 'There were at that time [at least 13] prominent German physicists who had agreed that they must try to avoid working with Hitler's war-machine or to make only a pretence of doing so. The names of German physicists unwilling to supply Hitler with supplementary armaments were deposited, after the war had begun, in Sweden—with Professor Westgren—and in Holland—with Professor Burgers. It was considered that an open "strike" of research workers would be dangerous, as it would leave the field open for unscrupulous and ambitious persons.'

Einstein later stated that, 'If I had known that the Germans would not succeed in constructing the atom-bomb, I would never have moved a finger.' ~~███~~  
*[Contributed]*