Otto Hahn

1879 -1968

Awarded the Nobel Prize for Chemistry in 1944

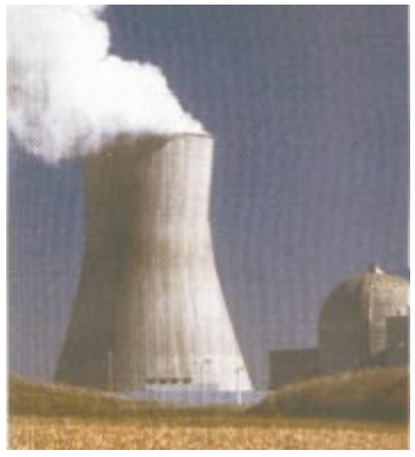
The German chemist and physicist Otto Hahn was awarded the Nobel Prize for chemistry in 1944 for the discovery of nuclear fission- by which ***nuclei of atoms of heavy elements can break up into smaller nuclei releasing large quantities of energy.*** The history of this discovery was rather dramatic.

In 1934, Hahn and his lifelong friend and colleague, Lise Meitner, had learned of the work of Enrico Fermi on the bombardment of atoms by slow neutrons, in which a neutron is captured by a nucleus and so is formed the next heavier element. Hahn and Meitner (they were soon joined by Strassmann) began new experiments analyzing the complex mixture of isotopes formed when uranium is bombarded with neutrons. They concluded that uranium did not in fact produce new heavy elements, but that something quite different appeared .

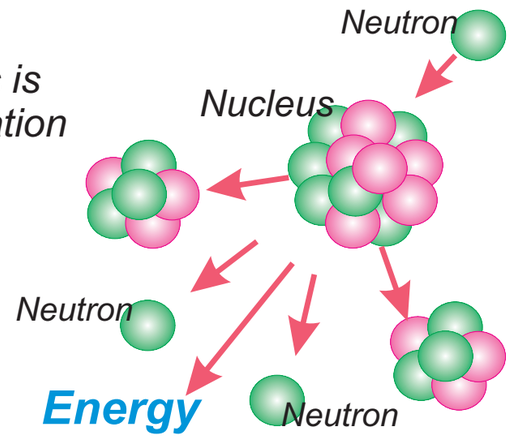
Unfortunately , in 1938, Lise Meitner ,whose Jewish ancestry made it unsafe for her to remain in Germany, left for Stockholm. Hahn and Strassman, continuing the experiments, began to think that one of the new elements that appeared was barium; much lighter than uranium. Such a small atom could have come only if the nucleus had split! **It was Lise Meitner who realized that nuclear fission had taken place with the release of large amounts of energy**. But her name was not mentioned in the first paper and she was not among the winners of the Nobel Prize!

Otto Hahn was born in Frankfurt-am-Main, in 1879, to the family of a glazier. When he was young he showed some interest in chemistry but he was also fond of music, gymnastics and religious studies. His parents wanted him to be an architect, but when he entered the University of Marburg he decided to study chemistry instead.

After graduating he served in the military for a year and then went to England to polish up his language and advance his knowledge of chemistry. There he became interested in radioactivity. Even as a young scientist he managed to obtain a few milligrams of a radioactive substance, which later was identified as an isotope of ***thorium.***



The fission process is used for the generation of electric power in a nuclear reactor



He was shot and injured by a disgruntled inventor

Otto Hahn began work at the Chemical Institute in Berlin in the autumn of 1907 as a university lecturer and a year later he was promoted as professor of chemistry. It was there that he began collaborating with the young physicist Lise Meitner and they found a new element - ***protactinium***. In 1912 he was appointed head of the Kaiser Wilhelm Institute of Chemistry.

During World War I, Hahn was involved in the development of poison gas. He was horrified by the results he saw when the gas was used in battle, but he had been convinced that such atrocities might bring the war to an early end.

Hahn continued to stay in Nazi Germany when the Second World War started, but he avoided working on the early German atomic bomb project and, instead, carried out research on fission fragments.

In 1945 he and his wife were captured by the US intelligence services and sent to England. A year later he returned to Germany and devoted his time to rebuilding the scientific community of his native land.

The last years of his life were tragic. Once he was shot by a disgruntled inventor and hardly recovered. He lost his only son in a car accident. After all these events his wife suffered a nervous breakdown. Hahn died in 1968, several months after he had been injured while getting out of a car.

S.E.