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Hans Albrecht Bethe (1967)

Born in Strasbourg, Alsace-Lorraine on July 2, 1906, Hans Albrecht Bethe was an only child to religious parents, though religion was by no means a major force in his childhood. At an early age, Bethe exhibited extraordinary mathematical ability such as computing square roots at the age of four, understand fractions at the age of five, and self-teaching calculus by the age of fourteen. However, mathematics did not suit him well as Bethe often spent times filling notebooks with stories. Bethe later attended the University of Frankfurt upon completing his high school education in 1924 and studied theoretical physics because he felt "...mathematics seemed to prove things that are obvious."

The German-American physicist obtained his studies at Munich from nineteen twenty six to nineteen twenty eight and obtained his Ph. D. in theoretical physics under Arnold Sommerfield. Later at Stuttgart and Frankfurt, Bethe served as an appointed instructor of physics serving one semester at each location. After the rise of the Nazis in Germany, he immigrated to England and held temporary positions at various universities until settling at Cornell University in Ithaca, New york.

During World War II, Bethe worked in the Radiation Lab of MIT, served as a director of theoretical physics of the Manhattan Project for three years, and worked

with Edward Teller at the end of the war. Together, they struggled over the development of the hydrogen bomb and nuclear energy.

During Hitler's rise to power, Hans lost his job, due to his mother's Jewish heritage, and was forced to relocate many times as long-term possibilities were often uncertain. However, relocation offered Bethe to make new friends and open the doors to new opportunities. Because of Bethe's new connections, he was to remain at Cornell University for the rest of his life primarily working on nuclear research. With his friend, Edward Teller, the two accomplices attended the 1938 Washington Conference hat was dedicated to the problem of energy generation in the cores of stars. "It would be a watershed moment in his life for he was able to finally solve the problem of energy generation by applying the theoretical tools of nucleosynthesis to the data that had been so far collected in this field. As a result Hans Albrecht Bethe won the Nobel Prize in Physics in the year 1967 for his outstanding breakthrough in the understanding of the energy in stars.

Danish astrophysicist Bengt Strömberg's opening lecture presentation vocused on the problem of the temperature and density distribution in the interior of stars and posed a challenge to the physicists in the audience to find the thermonuclear reactions that would give rise to the observed luminosities of the Sun and other main sequence stars. A graduate student of Teller's, Charles Critchfield, approached Garrow and teller to investigate the reaction in which Bethe intervened and proposed they collaborate. After processing various reactions, Bethe was able to explain why stars like the Sun and heavier ones burn for billions of years at the rate they do. The result of their collaboration was accepted by the astrophysical community and was awarded

the Nobel Prize in 1967. To this day, scientists have developed upon this discovery by investigating black holes, white holes, and wormholes in addition to the life and death of a star.

By the end of his life, Hans Albrecht Bethe accomplished much and received numerous honors and awards in his lifetime and afterwards. Fortunately, his wife, Rose, and two children carry his legacy. He died in his home in Ithaca, New York on March 6, 2005 at the age of ninety-eight years old.

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