

Subrahmanyan Chandrasekhar

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Have you ever looked up at the night sky and wondered what happens to stars when they grow old? One of the scientists who helped answer this question was **Subrahmanyan Chandrasekhar**, one of the greatest astrophysicists of the 20th century.

Chandrasekhar was born in 1910 in Lahore (now in Pakistan), which was then part of British India. From a young age, he showed great curiosity about science and mathematics. Interestingly, he was the nephew of the famous Indian physicist C. V. Raman, who inspired him to pursue scientific research.

At the age of just 19, Chandrasekhar made a remarkable discovery while travelling by ship from India to England for his studies. During the journey, he began calculating what happens to stars after they use up their fuel. His calculations showed that stars above a certain mass cannot remain stable and eventually collapse under their own gravity. This important idea later became known as the **Chandrasekhar Limit**.

The Chandrasekhar Limit explains that when a dying star is more than about **1.4 times the mass of our Sun**, it cannot remain a stable white dwarf star. Instead, it may collapse further to form extremely dense objects such as **neutron stars or black holes**.

Today, this discovery is one of the most important concepts in modern astrophysics.

At first, many scientists did not accept his theory. However, years later, his work was proven correct and became a foundation for understanding stellar evolution. In recognition of his groundbreaking research, Chandrasekhar was awarded the Nobel Prize in Physics in 1983.

Chandrasekhar spent most of his career at the **University of Chicago**, where he conducted research and mentored generations of scientists. His work helped scientists better understand how stars are born, evolve, and eventually die.

The story of Subrahmanyan Chandrasekhar reminds us that curiosity and persistence are essential for scientific discovery. A young student travelling across the ocean made calculations that changed our understanding of the universe. His work continues to inspire students who dream of exploring the mysteries of space.

