Fred Hoyle Biography

Fred Hoyle

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Biography

Fred Hoyle was born at Bingley, Yorkshire, England, in 1915. He attended Bingley Grammar School and went on to Emmanuel College at Cambridge. He eventually became a teacher of mathematics at Cambridge, a professor of astronomy and experimental philosophy, and a professor-at-large at Cornell University.

Hoyle delved deeply into the theory of **nuclear reactions** in **stars**, elaborating on gravitational, electrical, and nuclear fields, and on how various heavy elements are created within stars. In addition to writing technical books, he simplified complex theories for general readers and even wrote science fiction stories.

In 1948 Hoyle became involved with the steady-state theory of **cosmology**. First advanced by Thomas Gold and Hermann Bondi, steady-state cosmology proposed that as galaxies receded from one another over the eons, new **matter** is created in the empty **space** left behind and evolves into new galaxies. Hoyle, along with many other astronomers, became an advocate of steady-state cosmology because he felt its assertion that the **universe** would continue to expand indefinitely gave it a simplicity and symmetry lacking in **big bang** theory.

Hoyle, an extremely gifted writer, published several popular astronomy books that included elucidations of the new steady-state theory. He ran afoul of **George Gamow**, an equally talented theorist and supporter of the big bang theory of creation.

The greatest objection to the steady-state theory centered around the issue of the continuous creation of matter out of nothing throughout time. Hoyle felt it was easier to accept continuous creation over the theory that all the matter in the universe was created instantly from nothing by a mysterious big bang.

The debate between the two sides remained unresolved until 1963 when Maarten Schmidt discovered **quasars**. These unique objects did not fit into steady state cosmology, which required that the universe contain similar objects everywhere. This tipped the scales toward the Big bang theory, and the discovery of background microwave **radiation** by **Arno Penzias** and Robert W. Wilson in 1964 dealt a fatal blow to steady-state cosmology. Hoyle's steady-state theory is no longer widely accepted.