

# THE SCIENCE NEWS-LETTER

*A Weekly Summary of Current Science*

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## STAR'S LIFE LASTS 30,000,000,000,000 YEARS

Thirty trillions of years. Such is the lifetime of a star from its brilliant and gigantic babyhood to faint old age.

This latest computation of the time necessary for the complete evolution and life of a typical star in the heavens has just been reported to the National Academy of Sciences in a communication from Edward Condon, assistant to Prof. A. O. Leuschner of the University of California.

The earth is only a few billions of years old, geologists tell us after a study of radioactive rocks. The human race evolved in the course of a few hundreds of thousands of years. The greatest span of one person's life is little more than a hundred years. Yet such intervals of time are mere flashes in the life of a star.

Einstein, conjurer of time, space, and matter, gave the clue to the secret of stellar age. His idea that mass and energy can be converted one into the other led to the explanation of how a star can exist for great periods of time; throwing off great amounts of energy, and yet continue to shine apparently unchanged in brilliance.

Stars live on their fat, as it were. They gradually convert their mass into energy which they radiate away in the form of light. Young stars are giants, more brilliant and massive than fainter dwarf stars which have had their fling at life. Astronomers believe that the different kinds of stars in the heavens represent different periods or ages through which all stars pass.

Using this assumption, Mr. Condon arrived at 30,000,000,000,000 years as a rough estimate of a star's life.

This gigantic figure will comfort those which have been worried about the constancy and reliability of the earth's power plant, the sun. For the sun is a star; not a large one and it is growing smaller constantly. Four million tons of energy are given off from the sun in the form of light every second.

Yet the new figures on the age of stars indicate that the sun has been shining for billions of years in the past and will continue to shine for billions of years in the future without any great change in brilliance.

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