

ASTRONOMY

# Life is Rare in Universe Astronomer Believes

Sir James Jeans, Honored in U. S. By Award of Franklin Medal, Calls Outward Rushing of Nebulae a Major Problem

LIFE is a rare phenomenon in the universe, Sir James Jeans, British astronomer, assured the Franklin Institute meeting at which he was presented the Franklin Medal, one of Science's highest awards.

"I leave it to you to be pleased or not," Sir James said, "at a large fraction of the life of the universe being concentrated on our planet."

His theory is that the planets were formed by the close approach to the sun of another star that pulled out of the sun by tidal action a great cigar-shaped streamer of gas, which condensed like drops of steam into the planets.

Since stars are scattered in space as sparsely as three grains of dust in a large room, the close approach of two stars is a rare accident of the universe, Sir James explained. Life can only exist on just the proper kind of planets created by such passing of stars in the universe. For this reason Sir James considers life very rare indeed.

Sir James has been lecturing in many different parts of the country during this week and last. He visited the Mt. Wilson observatory in California, and the cover of the SCIENCE NEWS LETTER this week shows him standing before the great 100-inch telescope, at present the largest in the world. Sir James is pictured in the center, Dr. Edwin P. Hubble is on the right, and Dr. Walter S. Adams on the left.

## Is the Universe Flying to Pieces?

Astronomers at Mt. Wilson are now intensively at work on the solution of the universe's greatest scientific problem:

Is the universe actually exploding extremely rapidly like a gigantic shell, flying to pieces at rates of thousands of miles per second, and doubling its size every fourteen hundred million years?

Sir James Jeans revealed after visiting Mt. Wilson Observatory in California that an answer to this important question may be expected from a dual attack by Mt. Wilson scientists which promises to be successful in just a few years.

The discovery that the great nebulae or gigantic star groups are rushing away from us at terrific speeds, some as high as 12,500 miles a second, was termed by Sir James "a major difficulty in understanding the processes of nature." This outward bursting of the universe's units was discovered at Mt. Wilson Observatory through shifts in the spectral lines of light from the distant nebulae.

As to whether the immense recession velocities observed by Mt. Wilson astronomers are real exploding motions of the universe or whether the research now in progress will prove them to be merely apparent effects that can be explained otherwise, Sir James did not express an opinion.

But he did explain that the stars are known to be millions of millions of years old and that the universe if it has been exploding continuously must have once been extremely small and compact.

Explaining the size and structure of the universe as explored by the Mt. Wilson telescopes, Sir James said that if the farthest reach of the largest telescope today, a distance that would take light a hundred and forty million years to cross, were only one mile, and 300 tons of apples were scattered about approximately twenty-five yards apart, then each apple would represent a nebula or gigantic aggregation of stars like the Milky Way system in which our sun is but one of several hundred million stars.

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ARCHAEOLOGY

## Illinois Indian Site Of 2000 B. C. Found

CAMP FIRES that burned in native settlements of the Mississippi Valley back in the days when the Pharaohs ruled in Egypt have just been uncovered by an archaeological expedition of the University of Illinois which is excavating at Starved Rock, on the Illinois river. The camp fires were found buried nine



### RUSHING AWAY

*This Andromeda Nebula and the many other gigantic star groups speeding with it are called by Sir James Jeans "A major difficulty in understanding the processes of nature." This photograph was taken with a powerful telescope; to the naked eye the group appears as a single patch of light.*

feet from the surface of Plum Island, Dr. A. R. Kelly, director of Illinois archaeological explorations, has just announced.

The land where the camp fires were found is now covered by a river bar regarded as at least 3,500 to 4,000 years old on geological evidence, Dr. Kelley stated.

Indians of five and possibly six different types of culture lived in the neighborhood in the course of centuries, the expedition has discovered. The latest were the historic Illinois tribe, one of the tribes of the great Algonkian Indian group.

The different cultures have been identified not only by different kinds of pottery which they made, but also by different methods of mound construction which they employed, and different burial customs and burial furniture, Dr. Kelley explained.

The Illinois Indians had a very large village at this point at the time when La Salle explored their region. The middle portion of the village has been located by a previous expedition from the University. The settlement extended some five miles along the Illinois river, and the present expedition is trenching to locate the east and west limits, Dr. Kelley said.

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