

Cells' hint at life's origin

THEORY

METHOD

How / Where did life begin?

World View

Theory
• All life as we know it on Earth uses membrane structures to separate and protect the chemistry involved in the life process from the outside

Experiment
Ices made of water, methanol, ammonia and carbon monoxide treated with ultraviolet radiation to simulate conditions of cold interstellar space

Value
This work is very interesting in that it shows that natural reactions occurring in space are capable of building up more complex structures.

Knowledge
The early chemical steps important for the origin of life do not require an already-formed planet. This implies that the vastness of space is filled with chemical compounds which, if they land in a hospitable environment like our Earth, can readily jump-start life.

Data transformation
Some of the organics falling to Earth in meteorites and interplanetary dust might have been born in the coldest regions of interstellar space.

Result of the experiment
This produced solid materials which, when immersed in water, spontaneously created soap bubble-like membranous structures that contained both an "inside" and an "outside" layer. The structures themselves are not alive.

