

Bubbles Life's Origin

5 The atmosphere cycle

Injected into the atmosphere by bursting bubbles, the chemistry of these dollops would have been affected by such influences as the sun's light, lightning and falling meteors, before returning to the ocean in rain and snow.

2 The bubble matrix

Organic materials, clay particles and certain metals are attracted to the surfaces of bubbles. There they are stabilized and concentrated. When a bubble bursts, a rich dollop of chemicals is left.

4 Enriched foam

Surface foams containing enriched materials would eventually have dissolved, sending molecules through new cycles.

1 Air and sea come together.

A bubble is a puff of gas trapped within a membrane of water. In the early ocean, as now, bubbles formed from wind and wave action, from the impact of raindrops and snowflakes and from undersea volcanoes.

3 Energy to drive reactions

Energy sources were the sun's radiation, lightning and thunder and the mechanical action of wind, waves and water currents.

Did Life's Molecules, Like Aphrodite, Spring From Foam?

The mystery of life's origins is how the simple chemicals present on the early earth, like hydrogen, nitrogen and carbon, came to produce the large, complex molecules like DNA and proteins that form the critical working parts of living cells. The midwife of this process, according to a new theory, may have been bubbles. Bubbles attract chemicals and particles of matter as they travel through the atmosphere and ocean. And the changing temperatures and pressures they encounter may stimulate reactions among the chemicals they carry.

6 Deep mixing

Some molecules would have descended to the ocean depths, eventual mixing with materials expelled by undersea volcanoes and vents.

