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18 THE ORIGIN OF LIFE

18 Building blocks that fall from the sky

How did life on Earth begin? Scientists from the Heidelberg Initiative for the Origins of Life have set about answering this truly existential question. Indeed, they are going one step further and examining the conditions in which life can emerge. The initiative was founded by a researcher at the Max Planck Institute for Astronomy and brings together specialists in the fields of chemistry, physics and the geological and biological sciences.

26 Elixirs from the primordial soup

In the Bible, the universe was created step by step: first light, then water and land, and finally the terrestrial animals and humankind. However, from a scientific viewpoint, it appears that the elements of life might not have come into being successively, but rather at the same time – this is what researchers at the Max Planck Institute of Biochemistry have concluded. They are investigating the role played by RNA molecules in the emergence of life.

34 How cells get their shape

Some time around four billion years ago, life started to become encapsulated. The first cells emerged – protected spaces that facilitated the bonding of complex molecules. Researchers at the Max Planck Institute of Biochemistry and the Max Planck Institute of Colloids and Interfaces are exploring the boundaries of cellular life by researching the dynamics of biomembranes.

ON THE COVER No satisfactory conclusion has yet been drawn about where life first emerged. It could have happened in thermal springs such as the Champagne Pool in New Zealand. These warm, saline environments provide conditions that are important for the evolution of lifeforms.

10 No understanding: people with mental illness are often incorrectly believed to be dangerous or unpredictable.

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The Free State of Bavaria has revised a law on psychiatry. However, our author criticizes the new regulations as failing to help people with mental illness. On the contrary, these people are classified as a danger to the general public.

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Personal Portrait: Kurt Mehlhorn

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