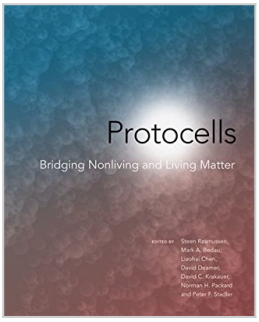

Protocells: Bridging Nonliving and Living Matter (MIT Press)

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Protocells offers a comprehensive resource on current attempts to create simple forms of life from scratch in the laboratory. These minimal versions of cells, known as protocells, are entities with lifelike properties created from nonliving materials, and the book provides in-depth investigations of processes at the interface between nonliving and living matter. Chapters by experts in the field put this state-of-the-art research in the context of theory, laboratory work, and computer simulations on the components and properties of protocells. The book also provides perspectives on research in related areas and such broader societal issues as commercial applications and ethical considerations. The book covers all major scientific approaches to creating minimal life, both in the laboratory and in simulation. It emphasizes the bottom-up view of physicists, chemists, and material scientists but also includes the molecular biologists' top-down approach and the origin-of-life perspective. The capacity to engineer living technology could have an enormous socioeconomic impact and could bring both good and ill. Protocells promises to be the essential reference for research on bottom-up assembly of life and living technology for years to come. It is written to be both resource and inspiration for scientists working in this exciting and important field and a definitive text for the interested layman.

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Editorial Review

Review

To create life from scratch is the ultimate goal of origin of life research and one of the great scientific challenges of 21st century. A program to synthesize wet artificial life was initiated by a group of scholars in 2000. This collective volume presents a fascinating progress report and sketches the paths that eventually will lead to an artificial cell. Life has many features the most basic of them are compartmentalization metabolism autopoiesis multiplication and inheritable encoded information. The volume covers the state of the art in all subdisciplines with excellent articles written by first rank scientists. To bring partial solutions together and to unite them in a great experiment is the task of the future.

(Peter Schuster, University of Vienna)

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