

Multicellularity

ORIGINS AND EVOLUTION

edited by

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foreword by

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The evolution of multicellularity raises questions regarding genomic and developmental commonalities and discordances, selective advantages and disadvantages, physical determinants of development, and the origins of morphological novelties. It also represents a change in the definition of individuality, because a new organism emerges from interactions among single cells. This volume considers these and other questions, with contributions that explore the origins and consequences of the evolution of multicellularity, addressing a range of topics, organisms, and experimental protocols.

Each section focuses on selected topics or particular lineages that present a significant insight or challenge. The contributors consider the fossil record of the paleontological circumstances in which animal multicellularity evolved; cooptation, recurrent patterns, modularity, and plausible pathways for multicellular evolution in plants; theoretical approaches to the amoebozoa and fungi (cellular slime molds having long provided a robust model system for exploring the evolution of multicellularity), plants, and animals; genomic toolkits of metazoan multicellularity; and philosophical aspects of the meaning of individuality in light of multicellular evolution.

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