

The birth of bacterial genomics since the mid-1990s brought with it several conceptual modifications and wholly new controversies. Working beyond the scope of the neo-Darwinian evolutionary synthesis, a group of leading microbial evolutionists addresses the following and related issues, often with markedly varied viewpoints:

- Did the eukaryotic nucleus, cytoskeleton and cilia also originate from symbiosis?
- Do the current scenarios about the origin of mitochondria and plastids require revision?
- What is the extent of lateral gene transfer (between "species") among bacteria?
- Does the rRNA phylogenetic tree still stand in the age of genomics?
- Is the course of the first 3 billion years of evolution even knowable?

"This volume is timely, interesting, and important. Dr. Sapp has gathered a group of authors that includes the best in the field of microbial evolution. . . . Any scientist interested in the origin and evolution of prokaryotic and eukaryotic cells will want to peruse this book."

—Nicholas Gillham, J.B. Duke Professor of Biology Emeritus, Duke University

"This book has two great advantages. First, it sets out why the subject of bacterial evolution has become of central importance to considerations of the origins of living organisms and of a variety of their cell and molecular mechanisms. Second, it sets out the contrasting viewpoints on the significance of recent research with unique coherence. The 21st century will see the continuing emergence of radical new ideas on the evolution and interrelationships of living organisms. No other book sets out the current situation and possible future developments so clearly and authoritatively."

—Sir David Smith, Professor Emeritus at the University of Oxford,
Fellow of the Royal Society of London

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