**Intracellular Calcium Regulation.** Edited by FELIX BRONNER. Published 1990 by Liss, New York. No of pages: 492. ISBN: 0-471-56216-5.

One of the astonishing developments in biological research is the recent widespread interest in the role played by calcium in cellular metabolism. Calcium homeostasis has been studied intensively for many years and mechanisms by which calcium absorption, excretion, and bone deposition are affected and regulated are beginning to be understood in detail. But not many investigators of calcium metabolism would have predicted the important cellular role played by this divalent cation or the major effort made by the cell to maintain its free intracellular calcium low and constant. There thus arises an interesting and challenging parallel between the maintenance and regulation of intracellular and extracellular calcium. This book aims to set forth what is known about intracellular calcium regulation, thus laying the groundwork for a subsequent detailed study of how the intracellular and extracellular calcium economies of mammalia might be related.

This book is divided into the following main sections:

—Calcium fluxes;
—Calcium entry;
—Intracellular calcium movement and regulation;
—Calcium efflux;
—Calcium transport;
—Evolutionary aspects.

This volume would be very useful for people working in the fields of biochemistry, biophysics, cell biology, and molecular biology, as well as for advanced students.

**Molecular Evolution.** UCLA Symposia on Molecular and Cellular Biology, New Series, Vol. 122. Edited by MICHAEL T. CLEGG and STEPHEN J. O'BRIEN. Published 1990 by Liss, New York. No of pages: 335. ISBN: 0-471-56724-8. Price at September 1990: $86.00

The *UCLA Colloquium on Molecular Evolution* was held in March 1989 at Lake Tahoe, California and one of its major goals was to achieve a global prospective on common problems in molecular evolution as well as to stimulate coordinated efforts on research in this field.

Molecular evolution is a synthetic discipline that employs the tools of molecular biology to study processes that govern genetic change. Molecular data provide an unparalleled view of organismic relationships and of evolutionary history. The articles published in this volume capture the synthetic nature of this discipline and offer stimulating discussions on the rates and processes that govern gene family evolution.

This book also addresses the evolution of genomes and presents four broad areas of genome evolution:

—Gene evolution:
  Evolution of immune system genes;
  Rates and patterns of gene change.
—Genome evolution:
  Organelle genomes;
  Transposon evolution;
  Evolution of sex and recombination;
  General sequence features.
—Molecular diversity in populations:
  Population structure and genetic relationships;
  Processes of genetic change.
—Methodological issues in evolutionary studies:
  Applications of the polymerase chain reaction (PCR) technique;
  Applications of yeast artificial chromosomes (YAC) cloning;
  Genome mapping;
  Issues in data analysis.

This volume would be very useful for people working in molecular biology, biochemistry, physiology, genetics, immunology, oncology, and neurology, as well as for advanced students.