

Mechanismen der Zellevolution

by Werner Schwemmler
Walter de Gruyter; Berlin, New York, 1979
276 pages. DM 42.00

This text is rather ambitious. The author tries to give a complete history of evolution, starting with cosmology and early chemical evolution in the 'primordial soup' via evolution of cell-like systems (precytes, this takes the largest part of the book), the debut of prokaryotes, the evolution of the organelles of eukaryotic cells, and ending with the evolution of symbiotic systems. No attempt is made to describe the history of evolution of organisms. Emphasis is laid not only on the origin of the fundamental reactions in molecular biology, i.e., replication, transcription and translation, but also on the evolution of membranes and of cell organelles.

The author (botanist by training) masters a lot of facts from various fields — biochemistry, physics, chemistry, palaeontology, geology and biology. However, these facts alone do not allow one to tell the story; therefore, the author is forced to present hypotheses. Indeed, many hypotheses are quoted from the literature and are carefully evaluated; others are

put forward by the author himself for discussion.

One criticism may be that the author bypasses lack of knowledge by hypothetical explanations. On the other hand, he makes clear that he is talking of hypotheses, and the interested reader may ask himself how a given hypothesis could be substantiated.

The book is rather scholarly written. At the end of each chapter there are one or two pages of references to the relevant literature (mainly review articles); thus, the book can also be regarded as a source book.

The referee has detected a rather unfortunate misprint on p. 98 (primordial glycolysis), but otherwise the text seems to be reliable.

The book can be recommended to all those interested in the origin of life and the evolution of the first cellular organisms from abiotic material. Unfortunately, the fact that it is written in German may prevent a wider distribution among non-German speaking scientists.

P. Karlson

Cell Motility

by Howard Stebbings and Jeremy S. Hyams
Longman; London, New York, 1979
viii + 192 pages. £4.50

This book though short has a pleasing competence and smart address to it. The text is, contrary to the publisher's blurb, suitable for undergraduate students of cell biology and to teachers of courses with a smattering of cell biology such as zoology and botany courses. Not the other way round as the publisher would have it. It covers the muscle system, microtubules and microfilaments, movement of cilia and

flagella, acrosome reactions, mitosis, division, intracellular reactions and some passing remarks on cell movement and behaviour. The writing is clear and accurate. There are very few typographical mistakes. The only deficiency is the title, for prokaryote cell motility is never even hinted at.

Adam Curtis