Fractal analysis is a powerful tool for quantitatively analyzing the effects of self-similar scaling properties. Its diversity is represented in the book by the work of Grebogi, McDonald, Ott, and Yorke on the boundary between chaotic attractors, by a study by Mori of turbulence, and by an analysis by Suzuki of phase transitions.

The challenge of incorporating these new concepts into statistical turbulence theory is taken up and clearly discussed by Krommes and by Horton.

Nonlinear dynamics continues to grow, revitalizing classical mechanics and providing rewarding resources for plasma physics. This volume and its predecessor are an up-to-date compendium on the subject.

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Quaternary Environments

Quaternary Stratigraphy of Canada. A Canadian Contribution to IGCP Project 24. R. J. FULTON, Ed. Geological Survey of Canada, Ottawa, 1984 (available from Canadian Government Publishing Centre, Ottawa). vi, 210 pp., illus., + map. Paper, C$12. Geological Survey of Canada Paper 84-10. From a symposium, Winnipeg, 1982.

This book is a collection of informative, well-edited papers on the Quaternary (mostly glacial and post-Sangamonian) stratigraphy of Canada. The papers were specifically designed for this volume, which constitutes the final report of the Canadian Working Group of IGCP (International Geological Correlation Program) Project 73/1/24, Quaternary Glaciations in the Northern Hemisphere.

Introductory papers by Fulton and Dreimanis set the stratigraphic and institutional contexts that governed the writing of the papers. Another introductory paper, by Prest, provides background and descriptive information about a map of the Late Wisconsinan glacier complex that is provided in a pocket at the back of the book. This map shows the limits of the North American ice sheets during the Late Wisconsinan. Prest has tried to show the direction of ice flow, flow centers, and controversial maximum and minimum boundaries for the ice sheet, with approximate dates of maximum ice cover. The map is very useful for reference as one reads the papers that discuss controversial topics, such as the relationships between Keewatin and Labradorean centers of flow and the lack of a Hudson Bay center, the extent of ice in other parts of the Arctic, and the extent and timing of advances in eastern Canada.

The remaining papers are divided into sections on western, arctic, and eastern Canada. For each region there are three detailed papers and one summary paper. The detailed papers, especially those on western Canada and the Great Lakes region, contain considerable stratigraphic information. Fulton is to be commended for seeing that the level of coverage in the detailed papers is nearly the same. This is especially difficult to achieve because different approaches (lithostratigraphic, chronostratigraphic, event stratigraphic) have been used in different parts of Canada.

There are some differences in approach in the book. Some papers are oriented toward raising questions. In particular, papers by Shilts on the Hudson Bay lowland, Fenton on the prairies, Rutter on the ice-free corridor, Grant and King on the Atlantic provinces, and LaSalle on Quebec point out controversy and expand on it. A paper by Karrow on the Great Lakes region, on the other hand, is a detailed stratigraphic description with few questions raised.

Different dating techniques have been used in different areas. Radiocarbon is, of course, fundamental for all areas, but different emphasis is placed on the importance of dates of wood, shell, and fine-grained organics. In areas where deposits older than the Late Wisconsinan are present little dating has been done. A paper by Andrews and Miller on the eastern Arctic and to a lesser extent one by Vincent on Banks and other islands of the Arctic Archipelago depend much more on amino acid stratigraphy than any of the other papers.

The papers in the book are uniformly excellent. They complement the recent volumes edited by Wright and Porter on the United States and will presumably complement a similar set of papers to be published by the U.S. Working Group of the same IGCP project. The book should be in the collection of every student of the Quaternary. Finally, I cannot think of a better preparation for the International Quaternary Association meetings to be held in Canada in 1987 than reading the book.

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Some Other Books of Interest

Handbook of Squirrel Monkey Research. LEONARD A. ROSENBLUM and CHRISTOPHER L. COE, Eds. Plenum, New York, 1985. xxii, 501 pp., illus. $65.

This book was conceived as an updating of and companion to *The Squirrel Monkey* (L. A. Rosenblum and R. W. Cooper, Eds.), published by Academic Press in 1968. The volume opens with a discussion of the taxonomy and distribution of squirrel monkeys (genus *Saimiri*) by R. W. Thorington, Jr. There follow accounts of behavior in natural environments by John D. Baldwin, cognition by Dorothy Munkenbeck Fragaszy, and communication by John D. Newman. The remaining chapters deal with physiological consequences of maternal separation (Coe *et al.*), rearing by maternal surrogates (Hennessy), reproductive cyclicity (Dukelow), endocrinology (Coe *et al.*), thermoregulation (Adair), sneezing behavior (Schwartz and Rosenblum), vision (Jacobs), cardiovascular disorders (Strickland and Clarkson), behavioral pharmacology (Barrett), nutrition and metabolism (Ausman *et al.*), immunology and pathology (Kalter), and medical care (Abee). The book includes a 13-page subject index.—KL

Dinoflagellates. DAVID L. SPECTOR, Ed. Academic Press, Orlando, Fla., 1984. xiv, 545 pp., illus. $75.

The editor of this compendium expresses the hope that it will be of use not only to those directly concerned with dinoflagellate biology but to workers "in other areas of biology in which dinoflagellates may be used as a model system," mentioning especially studies of small nuclear RNA's and the chromosome scaffold. A brief introduction by the editor is followed by an account of dinoflagellate taxonomy by Dodge. Cell cortex (Netzel and Dürr), nuclei (Spector), the cell cycle (Triemer and Fritz), and sexual reproduction (Pfiester) are the subjects of the next four chapters. Genetics (Beam and Himes), physiology and biochemistry (A. Loeblich), circadian rhythmicity (Sweeney), "unusual inclusions" (Spector), and cysts (A. Loeblich and L. Loeblich) are then dealt with. Chapters on toxic marine dinoflagellates (Steidinger and Baden) and culture methods (Guillard and Keller) are also included. The final chapter of the volume is a discussion of dinoflagellate evolution by A. Loeblich. The work has both taxonomic and subject indexes.—KL