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A review of: “Biogenic Sulfur in the Environment”

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BOOK REVIEW

Biogenic Sulfur in the Environment, by Eric S. Saltzman and William J. Cooper, Eds., ACS Symposium Series 393, American Chemical Society, Washington, D.C., 1989, 572 pp., \$119.95, ISBN 0-8412-1612-6.

This book deals with the origin and fate of biogenic sulfur compounds in the environment. It is based on a symposium sponsored by the Division of Environmental Chemistry at the 194th Meeting of the American Chemical Society, New Orleans, Louisiana August 30–September 4, 1987. The date of publication is May 1989 and the contributions were received in the last half of 1988.

The references (at least the publications of the contributors) are updated to 1988.

The text is divided into six sections with a total of 34 chapters. Terrestrial and freshwater systems are dealt with under the main headings of emissions (five chapters) and transformations (seven chapters). Biological transformations in the oceans are discussed (seven chapters) and finally the atmospheric distribution (four chapters), gas-phase transformations (eight chapters) and aqueous-phase transformations (three chapters) are treated.

The text is condensed and set in small type. Accordingly, the amount of information is much larger than anticipated from the total number of pages (572). By and large the chapters are well written and informative. The wealth of basic data is valuable for the specialist as well as for the novice. There is an adequate amount of experimental details and experimentally determined values allowing the reader to evaluate to some extent the data presented and the conclusions drawn from these experimental findings. This is a real asset since the current theories are no doubt prone to suffer (and presumably already have suffered) at least some revisions as knowledge accumulates. Even so the experimental findings will be of lasting value and serve to prolong the professional life of the book.

There is a wealth of astonishing findings presented. In an area as large and diverse as the present it is practically impossible for anybody to keep informed about the advances made in the widely different research areas. At least the present reviewer found it intriguing and interesting to learn that a tropical tree which exudes carbon disulfide from the roots is known. The old puzzle of how aerobic animals can survive under environmental conditions with high hydrogen sulfide concentration has received attention resulting in the interesting discovery that e.g. the protobranch mollusc *Solemya reidi* possesses an efficient system for organized oxidation of sulfide in the mitochondria. Also the prediction that phytoplankton blooms in the North Sea could, at certain times of the year, account for 30–50% of the total sulfur acids in Scandinavian air is fascinating. This discovery has far reaching consequences and ought to receive ample attention among all persons interested in the future of this ill managed body of water.

The book is recommended to graduate students and research workers with a serious interest in environmental chemistry and sulfur chemistry.

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