Environmental Biogeochemistry and Geomicrobiology


Biogeochemistry has come of age. The interest, the number of investigators, and the amount of information have been growing dramatically, and the field unquestionably is now able to stand on its own. In the last few years alone, the literature and the attention given to the subject by both basic and applied scientists as well as engineers and individuals in regulatory agencies of government have increased enormously.

These three volumes contain the proceedings of the Third International Symposium on Environmental Biogeochemistry, which was held in Wolfenbuettel, West Germany. The appearance of these volumes only two years after publication of the proceedings of the second symposium and the greater number of papers speak to the interest that has developed and the extent of the research that is being conducted.

The 83 papers included in these volumes cover a vast array of subjects and include studies of aquatic and terrestrial environments, cycles of major nutrients and trace elements, diverse microorganisms and microbial processes, geochemistry and biochemistry, oxidative and reductive conversions, global and local problems, energy and material fluxes, and newly described and also well-characterized phenomena. Other than the extensive activity and the diversity of the field, few general impressions emerge from these monographs. Unfortunately, much of the research is still focused on topics that are more in the realm of soil, freshwater, or marine microbiology and less is directed to geological microbiology or to the broader topics of biogeochemistry, but this narrower scope probably reflects the original disciplines of the investigators and hopefully represents a transitional phase as biogeochemistry matures as an independent discipline.

The lack of appreciable attention among microbiologists to the impact of natural communities on the chemistry of the atmosphere and the impact of atmospheric pollutants on microbial communities is likewise unfortunate because such subjects are receiving careful scrutiny by chemists, botanists, and public health workers.

Nevertheless, these volumes are a valuable, timely, and important addition to the literature of environmental sciences, and the breadth of coverage, the practical relevancy of the work, the contributions to basic science, and the variety of specialists and subdisciplines suggest that, though now of age, biogeochemistry will continue to grow and will attract an ever larger audience.—M. ALEXANDER, Department of Agronomy, Cornell University, Ithaca, NY 14853.

A Technology Assessment of Coal Slurry Pipelines


This report was prepared by Office of Technology Assessment specifically as a reference for use by the United States Congress in deliberations over proposed coal slurry pipeline legislation. It is also intended as a reference for use in development of general policies on transportation, water resource allocation, and social costs and benefits of energy development. The publication contains much basic information and data on present and future coal markets and demands, costs of coal production, water resources, transportation costs, and environmental impacts. From these data, projections are made of anticipated costs, as well as of social and environmental impacts, of transporting large quantities of coal by slurry pipeline versus move-