

Foreword

'There is no national science just as there is no national multiplication table; what is national is no longer science'.

A. P. Chekov (1860-1904)

The Scientific Committee on Problems of the Environment (SCOPE) has since 1974 conducted a project on biogeochemical cycles. The first phase consisted of an assessment of the global cycles of carbon, nitrogen, phosphorus, and sulphur. Based on the findings of this first phase, SCOPE decided to continue its activities in this highly important scientific field. The second phase led to the establishment of the SCOPE/UNEP International Nitrogen Unit at the Royal Swedish Academy of Sciences in Stockholm, a Carbon Unit at the University of Hamburg with auxiliary units in Stockholm, Bruxelles, Essen, and Woods Hole, and a Sulphur Unit at the Institute of Biochemistry and Physiology of Microorganisms of the USSR Academy of Sciences in Pushchino.

The third phase of the SCOPE project on biogeochemical cycles will look into the problems involved in understanding how the various cycles interact.

The 4th General Assembly of SCOPE, held at the Royal Swedish Academy of Sciences in Stockholm in June 1979, gave a valuable mid-second-phase opportunity to address the advancement of knowledge concerning the major biogeochemical cycles. This was considered an opportunity not so much for looking at what had been done but more to look ahead and to address the question of the importance of the biogeochemical cycles also in a socio-economic perspective.

The first session of the scientific meeting on biogeochemical cycles was devoted to interactions between the cycles. There are many such important interactions and the individual elements must not be treated too much as separate entities without due consideration to the close links which were part of the second phase of the SCOPE programme, while the last session concerned itself with socio-economic aspects of the cycles.

At the time of the SCOPE General Assembly in Stockholm, a joint statement was issued by Dr. M. K. Tolba, Executive Director of the United Nations Environment Programme, and Professor G. F. White, President of SCOPE. This statement drew the attention to 'the fundamental scientific importance of understanding the biogeochemical cycles which link and unify the major chemical and biological processes of the earth's surface and the atmosphere'. The statement invited scientists in

various disciplines to contribute to the design and execution of a collective endeavour to establish the essential basis for an understanding of the biogeochemical cycles as a global life-support system. The importance of undertaking such a concerted effort should be evident from this volume and from other publications from the SCOPE project on biogeochemical cycles as well as from a rapid increase in other scientific publications on this topic.

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