impartial and preferably internationally agreed basis. However, it is difficult to establish ground-rules which would apply to all areas of research. Specialisation in research gives rise to special institutes, special journals and an elite who are protective towards their subject. There are no techniques which allow the value and quality of one branch of science to be compared with another. Nevertheless with the cutbacks in science budgets, priorities have to be assessed. While some see bibliometric techniques as promising, the most widely accepted process is that of peer review, where the few sit in judgement on the many. Funds available for scientific research are now limited and increasingly the question to be asked is whether or not one is getting "value for money". To what extent does the research contribute to national, social and economic performance? This report concludes that the evaluation of research, even basic research, is often carried out independently of the institutional structures, forms of organisation and management practices that provide the infrastructure of scientific research. There is a need to evaluate those processes and structures which are considered to deliver scientific knowledge, and then to carefully monitor the effects of any changes on subsequent research performance.

Plymouth (United Kingdom) E.I. Hamilton

1000 Lake Survey 1986 Norway, Norwegian Institute for Water Research, NIVA, P.O. Box 333, Blindern, N-0314 Oslo, Norway, 1987, 33 pp. + Appendix. 1987.

This is a useful and well illustrated report which summarises the results of a survey made in late 1986 and which was designed to determine the present chemical status of lakes in areas sensitive to acidic deposition throughout Norway, as well as to identify any changes which have taken place since 1974. At present about 70% of the lakes sampled in southern Norway have lost their bicarbonate buffering capacity because of SO_4 acidic deposition. It is important that the quality of the lake water be improved so that fish can survive and proliferate; this will be achieved in many of the lakes only if there is a reduction in the deposition of sulphur.

Plymouth (United Kingdom) E.I. Hamilton

Proceedings of the 2nd North Sea Seminar 86 in Rotterdam — The Status of the North Sea Environment. Reasons for Concern, Vols I and II, 1987.

Volume I, 54pp. This first volume was prepared before the seminar took place and consists of three papers whose objective is to provide background information and to introduce general aspects of the North Sea and its environ-

ment. It is ten years since the last seminar took place and hence it is now relevant to identify the extent to which further research is required. Many aspects of the North Sea are well known, for example, general water circulation, sediment transport and the distribution of nutrients. Nevertheless mechanisms are often poorly understood and the quality of some of the baseline data, especially for organic compounds and metals, has only recently been improved to the extent that it has become meaningful. The ecology of the North Sea is largely obscure and attention tends to be focussed on commercially important species. In some areas detailed studies clearly illustrate some detrimental effects, but overall an assessment of the effects of pollutants and human activities in the North Sea is very difficult to make.

Volume II, 351pp. In this volume issues such as signs of environmental deterioration, sources of pollutants and their impact on environmental quality, non-pollution threats (e.g. land reclamation, fisheries), technical facilities for environmental protection, and international regulatory measures for protecting the North Sea are discussed in 21 papers. The volume presents a large body of data together with commentary on its significance. Although it contains a lot of interesting information, there remains the major problem of how to use this knowledge in relation to the quality of the North Sea. Extreme viewpoints are expressed; West Germany, The Netherlands and the Scandinavian countries favour preventive action while the United Kingdom believes that given the measures already in the pipeline, the level of pollution in the North Sea does not justify any major new initiative, while acknowledging that there are isolated areas which require special attention. The North Sea provides a forum in which to harmonise legislative management and future research activities, and this is clearly a matter for the politicians rather than scientists.

Plymouth (United Kingdom) E.I. Hamilton

Chemical Analysis in Environmental Research, edited by A.P. Rowland, Institute of Terrestrial Ecology, Natural Environment Research Council, Merlewood Research Station, Grange over Sands, Cumbria LA11 6JU, 1987, 104 pp. Price: £7.00.

This book considers the latest developments in analytical chemistry and reviews recent applications of more traditional methods, with the emphasis on studying the effects of acidic precipitation. The 18 papers cover a wide range of topics; each topic is presented in a concise manner and apart from providing technical information, the authors relate the data to specific problems in environmental research. Sufficient information is given concerning the principles of analysis (e.g. measuring pH in low ionic strength media, the use of inductively coupled plasma instruments and chemical sensors) to provide an introduction to those with limited appreciation of chemical analysis.

Plymouth (United Kingdom) E.I. Hamilton