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11 New Fetter Lane,  
London, EC4P 4EE.

## Buffers for pH and Metal Ion Control

D. D. PERRIN and BOYD DEMPSEY.

September 1974: 184 pages:  
illustrated: hardback: 412 11700  
2: £3.50

### Practical Manuals Series

This is a practical book designed to meet the varied needs of those scientists who require pH or metal ion buffers having specified values. Information has been gathered together into numerous pH buffer tables, and these include details of zwitterion buffers. Through the use of worked examples the reader is enabled to calculate the composition of buffers for particular conditions, and small computer programmes are included which facilitate these calculations.

### Second Edition

## Practical Inorganic Chemistry

Preparations, Reactions and Instrumental Methods

G. PASS and H. SUTCLIFFE

Second edition: September  
1974: 256 pages: illustrated:  
412 12690 7: hardback: £2.60.

This second edition of a successful textbook is now in SI units and new experiments involving ion-exchange and solid-liquid chromatography have been added.

The experiments described are complemented by suitable structural and analytical studies with follow-up exercises which require the study of listed references.

### Second Edition

## The Spectroscopy of Flames

A. G. GAYDON, F.R.S.

Second edition: September  
1974: 420 pages: illustrated:  
hardback: 412 12870 5: £8.00.

This book deals primarily with the use of spectroscopic observations to interpret combustion processes in flames and flame structure. It represents a total revision of the author's earlier work so that it now incorporates the latest refinements in techniques as well as some important related advances.

Further information on these titles and a list of stockists is available from the publishers on request.

## Impact of climate

*Climatic Resources and Economic Activity: A Symposium.* Edited by James A. Taylor. Pp 264. (David and Charles: Newton Abbot and London, June 1974.) £6.50.

THIS volume is the latest in a series emanating from the Aberystwyth Symposia, hardy annual gatherings from 1958 to 1973. These have focused attention usefully on what is broadly termed "applied climatology". Inevitably this volume overlaps the contents of certain of its predecessors in such an amorphous field, notably *Weather and Agriculture* (Oxford, 1967), *Weather Economics* (Oxford, 1970), and *Weather Forecasting for Agriculture and Industry* (David and Charles, 1972).

It claimed in the preface that this book is timely in reviewing relationships between climatic resources and some of their social and economic usages: this is indisputable, although the range of papers it contains is broad rather than all-embracing, and the depth is distinctly moderate. Many workers may take greater exception to the unqualified assertion that the volume is "representative of current research trends and achievements" in environmental science. There are other kinds of trends and achievements too, several arguably of greater significance in the long run. Perhaps the most unnecessary aspect of the introductory keynote is its attempt to justify this collection of articles in terms of current geographical philosophy. One wonders whether the three-quarters of the contributors who are employed outside academic geography welcome being seen in this perspective. If applied climatology and meteorology are fields worthy of investigation, they may be explored best if the directions from which they are approached are totally unprejudiced.

The contents include a broad introduction to the concept of the atmosphere as a global resource, and five chapters of bioclimatic interest, almost wholly concerned with weather, plants, and crop husbandry. Two further chapters—more helpful and interesting than most—appraise water resources in the United Kingdom, and mathematical models designed to facilitate the planning of their exploitation. Two chapters follow on air pollution, then a rare, thought-provoking essay on weather and road accidents. The two last contributions are concerned with modelling influences of atmospheric behaviour on general and national economical activities.

Several chapters suffer from the current abuse of statistical methods for environmental analysis. Correlations are based on tiny populations, and rakish linear regression lines are em-

ployed where curvilinear relationships even of only quadratic or cubic forms would have yielded much more significant values of  $r^2$ . Why weaken a potentially important argument if the chosen "best fit" statistical statement does it less—even much less—than justice?

As an ardent disciple of the school which prefers its scientific books to be more akin to disposable paper cups than presentation clocks, I am bound to think that the circulation of this book will be restricted by its style and cost. It is too lightweight and piecemeal to serve as a worthy reference volume on the library shelves; meanwhile, it is too wasteful in production and design to recommend itself to the college student or the weather-conscious layman. Presumably, therefore, it is aimed at the business market, where its value will depend on the nature of the enterprise. A paperback version could have been recommended to students.

Both front and back cover pictures are from the 1960s, which perhaps might just be forgiven. But the satellite photograph of South America on the back cover would look considerably better—and make more sense to the amateur—if it were not upside down.

E. C. BARRETT

*Climate and Life.* By M. I. Budyko. English edition edited by D. H. Miller. Pp. xvii+507. (International Geophysics Series, vol. 18.) (Academic: New York and London, April 1974.) \$35; £16.45.

THIS book provides the most complete account in English of the climatology work at the Voeikov Geophysical Observatory, and with very complete references at the end of each chapter it is important simply as a reference guide to this work in the Soviet Union.

Apart from this, it is a book which will be of real value to the serious student of climatology, although it is certainly not always easy to read. Starting from solar radiation and heat balance at the Earth, the study of climate and its impact on life is considered within a unified framework which builds upon the work reported in the earlier (1956) summary of research at Voeikov Observatory.

I found the sections on climatic change particularly interesting and useful; I would have preferred to find less emphasis on the effects of volcanic dust, perhaps—or at least comparable emphasis on other factors—and I would take issue with the statement that "over a duration of several centuries, noticeable fluctuations of climate can occur only in high latitudes". But these are relatively minor points and in a book covering so much it is no surprise if the author fails to please all of the readers all of the time.

JOHN GRIBBIN