

Book Reviews

Oil Economists' Handbook

Gilbert Jenkins

Applied Science Publishers Ltd, London, 1977, viii + 173 pp, £20.00

To many people involved in oil production, movement and marketing economics the handbook will be a most useful tool – a welcome replacement, no doubt, for a drawer-full of odd tables and charts. It will appeal, also, to those who, hitherto, have searched in vain for the right energy-consumption figure or conversion factor, or who have remained baffled by some incomprehensible piece of oil-industry jargon.

Its 173 pages are fairly equally divided between a dictionary of terms and a selection of statistical tables. The dictionary is up-to-date and many of the entries include useful factual material. The terms and abbreviations covered are mainly those peculiar to the oil industry. Few appear to have been omitted, though 'low factor' and 'high factor' used in the tables of nuclear and hydro electricity consumption seem not to be defined.

The tables – 77 in all – cover national production and consumption according to fuel and energy type as well as many other aspects, ranging from 1860–1975 crude oil prices to tanker rates for key routes. Most of the tables end at 1974 figures.

Even Mr Jenkins is unable to escape from the usual mixed bag of units. Barrels/long ton, kcal/kg, lb/US gallon, Btu/lb all make their appearance, to emphasize how much the US still dominates the industry and how far we have still to go to achieve a rational system of working units acceptable to all.

It would perhaps be unfair to expect the high design standards of the BP Statistical Review, but presentation of the tables is poor by *any* standard. At least five type faces are used and the abbreviations are inconsistent. The layout gives an air of casualness which is inconsistent with the very substantial and carefully prepared content of the tables themselves.

The author defines 'Opportunity Cost' as '... the real cost of satisfying a need or want expressed in terms of the alternative choice'. Where else can one find such a useful distillation of facts on the oil business? Even at £20, the book's publication is clearly a well-taken opportunity and its cost almost reasonable.

G. A. Payne

ANNOUNCEMENT

The conference 'Chemical Thermodynamic Data on Fluids and Fluid Mixtures: Their Estimation, Correlation and Use' will be held at the National Physical Laboratory, Teddington, Middlesex, UK on 11–12 September 1978. This conference is for everyone concerned with chemical thermodynamic data on fluids and fluid mixtures—what data are available, what data are needed and what to do when there are no published data. This conference will provide a forum where those who use, produce, estimate, correlate and disseminate chemical thermodynamic data on fluids can meet to discuss mutual problems.

Full details of the programme and conference arrangements, and registration forms from Dr A. J. Head, Division of Chemical Standards, National Physical Laboratory, Teddington, Middlesex TW11 0LW, UK.

Combustion

Irvin Glassman

Academic Press, New York, 1977, xv + 275 pp, \$19.50, £13.85 (cloth)

This book is an integrated treatment of thermodynamic, chemical kinetic and transport aspects of combustion processes at a level intelligible to undergraduate students of physical sciences and engineering which will probably find its main use by graduate students newly entering the combustion field. It appears more suitable for scientists than engineers in that the treatment, while being aimed at physical insight into combustion phenomena, stops short of quantitative application, containing neither test questions nor worked examples.

The author rightly stresses the possibility and need of a fundamental approach to complex problems but seldom gets beyond the algebra. He appears to be more familiar with the chemical and thermodynamic aspects of the subject than with the fluid mechanical; in particular, his treatment of turbulence is weak and contains discrepancies between the text (p 110) and Figure 35. There are surprising omissions in subject matter, for instance swirling flames and fluidized bed combustion are not considered. Nearly all references to recent work occur in the penultimate chapter on 'Environmental Combustion Considerations' which occupies one-fifth of the book and relates mainly to formation of pollutants (NO_x, SO₂ and soot) and their chemical interaction with the atmosphere. It is the relative emphasis on pollution chemistry which constitutes the major difference between this book and the standard texts on combustion.

The body of the text is written mostly in short, direct, factual sentences reminiscent of dictated lecture notes, a style which although admirably clear can be monotonous to the reader. Mathematical developments are set out in exceptionally full detail creditably allowing the individual steps to be followed unaided by a weak (but persevering) student but inevitably tending to obscure the overall argument. As the fruit of twenty years' teaching and reflection this book contains many useful insights and will undoubtedly be an invaluable aid to the author's graduate students and others similarly placed. The price is reasonable. However as a general text book on combustion it is unlikely to replace the well-known work of Lewis and von Elbe and as an introduction to combustion many engineers will prefer the recent book by Kanury, ironically part of a series edited by Professor Glassman. The present reviewer found the book informative but pedestrian and uninspiring, which presumably illustrates the truth (in a way not intended by the author) of the last line of the long and repetitive quotation from Gibran with which it begins: 'the vision of one man lends not its wings to another'.

V. D. Long

ERRATUM

April 1978 issue, paper by A. Attar, page 207, Table 3. The headings of the final two columns should read:

$$\begin{array}{cc} \Delta S_{600}^{\circ} & \Delta F_{600}^{\circ} \\ (\text{J/mol K}) & (\text{kJ/mol}) \end{array}$$