

## Complex Michelin

*Chemical Industry: Social and Economic Aspects.* By F. R. Bradbury and B. G. Dutton. Pp. ix+236. (Butterworth: London, October 1972.) £2.90.

EXPERTS assure us that in the not too far distant future the chemical industry will be Britain's single largest generator of wealth. Already it is among the leaders and its products have wrought profound changes in the general style of life. The industry has also had its share of criticisms of varied validity. In this interesting, no-nonsense, although somewhat misleadingly entitled book, two insiders explore the realities of successfully operating a major industrial enterprise.

The greatest public noise in recent years had been generated by those whose suddenly sensitized consciences discovered the environmental harm any industrial activity is liable to do. It is a welcome corrective to discover reality behind the slogans; that industrial activity is a matter of choosing the correct shade of grey rather than a re-run of *Paradise Lost*. Industry contributes to national wealth and thus to a high level of creature comforts the developed world has grown accustomed to, but it does so within the ideas, constraints and conditions imposed by society.

Perhaps it is a matter for emotional regret, but the work of industry does not ultimately depend on the inspired inventor leaping out of his bath, but rather on the patient cumulative efforts of solid, conscientious citizens. Thus Bradbury and Dutton, ex-ICI and ICI respectively, are particularly interesting on the multifarious skills needed all the way from production to final use; the roles of marketing and selling strategy, the tortuous route which takes a burgeoning idea to a multi-million pound factory complex, the use of complex analysis to achieve the correct compromise.

The social effects of the chemical industry are complicated and wide ranging and the current debate has progressed beyond considering the undoubted excellence of synthetic fibres and the existence of pharmaceutical products. It would have been illuminating if the book could have mirrored the concern of industry with secondary effects on society, both good and ill, and the change of values mediated through industry.

The book has been written principally for school leavers and their teachers. They will find an excellent Michelin guide to the complexities of modern industry, but rather less of the human excitement and concern which ought to be emphasized if industry is to obtain its share of the best in the age group.

There is a chapter on the individual in industry, but it is rather like a syllabus, a skeleton instead of the living animal. Yet there are plenty of facets to excite the humanistically inclined school leaver; for example, the generally excellent labour relations in the chemical industry and the sophisticated ideas now put in practice to make repetitive jobs more interesting and satisfying. Where are the great human battles that signalled nearly every major development, that gallery of larger than life figures that the chemical industry can boast of, men who may not have known anything about discounted cash flows but pitted their vision against existing society? And, indeed, where are the spectacularly bad decisions that are occasionally made *pace* computers, decision trees and risk analysis? In the last resort, industry and the effects of industry encompass but go far beyond machinery and techniques. They make statements about men in society, about hopes and realities, ambitions and prices paid for them. P. J. FARAGO

## Pesticides as Pests

*Environmental Toxicology of Pesticides.* Edited by Fumio Matsumura, G. Mallory Boush and Tomomasa Misato. Pp. xiv+637. (Academic: New York and London, August 1972.) \$17.50.

THIS book contains the published version of twenty-nine papers read at a United States-Japan seminar held in Oiso, Japan, in October 1971. This is not evident from the title, yet of the forty-eight contributors to this book, twenty-nine work in Japan, seventeen in the USA, one in Canada and one in Britain. Accordingly, what is being offered by Academic Press as a comprehensive work has cut out potentially valuable review articles from scientists outside the USA and Japan. One can imagine how much better this work could have been if, after using the conference as a basis, additional contributions had been obtained to fill the gaps in coverage.

Within these reservations, however, the book contains valuable contributions. The first three chapters deal with the impact of pesticides in Japan, United States and Britain, and these well prepared contributions vividly illustrate both the differences in uses of pesticides in these countries and their respective governments' action in monitoring and limiting the use of certain chemicals.

Further chapters consider mercury in the environment, chlorinated hydrocarbons, fungicides, organophosphates and carbamates. Other sections deal with light and microbial degradation of

pesticides and the toxic effects of pesticides on wildlife. The final section, which is far too brief, skims over the considerations and feasibility of designing new pesticides. In this last section, very little information is given on insect sex pheromones and the reader is left with the incorrect impression that these substances are only known from Lepidoptera.

I have two general criticisms of the book. First, a work like this needs a well constructed index. Unfortunately this is not supplied. The index lists three references to methylmercury and only one for DDT, while BHC, dieldrin, endrin, aldrin and DDE do not even appear. Second, if this book is meant to include a review of the present situation, then I am afraid a number of persons have a poor knowledge of the literature. I hope and believe that scientists in Europe working in this field have a greater knowledge of international published work.

In general, this is a useful contribution, but it could have been so much better. J. C. COULSON

## More Spectroscopy

*Journal of Electron Spectroscopy.* Edited by C. R. Brundle and T. A. Carlson. Volume I. Number I. Pp. 112. (Elsevier: Amsterdam, October 1972.)

DURING the last decade electron spectroscopy has become one of the most important techniques for the investigation of the electronic structure of matter. It has given information on the inner orbitals of molecules and the band structure of solids which has hitherto been unobtainable by conventional "photon" spectroscopy. The literature in the field has expanded to the point which has justified the initiation of this new bimonthly devoted to the subject.

The main fields it embraces are X-ray and ultraviolet photoelectron spectroscopy, electron energy loss spectroscopy, Auger spectroscopy and Penning ionization spectroscopy. Papers covering instrumental aspects, analytical applications, theoretical calculations of electronic structure, photoionization studies by mass spectrometry or ultraviolet absorption as well as relevant work on X-ray absorption and fluorescence are also acceptable for publication.

The first two numbers of this bimonthly journal have already appeared. They contain valuable articles by established workers in various branches of electron spectroscopy. If the quality is maintained in future issues there is no doubt that the journal will provide a unifying medium for many closely related techniques in electron spectroscopy.

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