learned Doctor, including the above self-depreciatory description of the function for which he is best known to the English-speaking world, are a valuable source of quotations to rival even the Bible. Secondly, that compilers of dictionaries, encyclopedia and similar works provide very valuable practical tools for activities varying from erudite scholarship to the practice of a technical skill. Thirdly, that an audience of academics and middle class professionals who have both eaten and drunk well are relatively easily amused.

This, like each of the previous seven volumes in this compilation, is a splendid book. Any multi-authored work is bound to display some variation in quality and style but the editors who have worked on this series have served the community well in maintaining a high standard with very few falls from grace. Experience of this kind of work makes me fairly confident that, at the time they were writing their various sections, most of the thirty-eight contributors would not have disputed Johnson's description of the work as drudgery. However, practising polymer scientists, both now and for a good many years to come, will be very grateful to them for their labours and to the editors who cajoled them to produce manuscripts in their areas of expertise. It is undoubtedly the case that Comprehensive Surveys, Reviews, Dictionaries and the like are valuable to the communities at which they are targeted provided that they are carefully researched, written by experts who have been encouraged to critically evaluate the information on which their articles are based, and well produced. This volume, like the previous seven volumes published in 1989, meets all these criteria and will undoubtedly find a place on the library shelves of any institution where polymer science is practised and/or undergraduates are taught.

The series is comprehensive (or becoming comprehensive) in its breadth of cover of the field of polymer science. That is not to say that the individual contributions are simply all inclusive compilations of everything which has been published under the heading of that particular section. Indeed, such undiscriminating compilations are of little value and effectively became redundant with the advent of computer searching of the literature. The vast majority of these articles are descriptions and evaluations of particular themes of work and, as such, are likely to be of value to anybody wanting access to a particular field of knowledge. I have found the earlier volumes of great value for finding information in relation to solving problems, planning research programmes and for teaching and I am sure that these pages will become a part of my rapid access knowledge base. Another often quoted statement from the good Doctor is: 'Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information upon it.' It is clear to anyone looking at the block of eight volumes which now constitute 'Comprehensive Polymer Science' that there is too much knowledge there for it to be of the kind we know ourselves but it is certainly good to know where we can find reliable information. This first supplement has twenty-one sections and an appendix concerned with the polymer literature. The material falls into the themes; polymerization kinetics and mechanism, functionalized polymers, fundamental properties, degradation of polymers, generic polymer systems and applications and reactive processing. These volumes are of the kind in which the reader browses or searches for specific information; in reviewing this volume during the last few weeks I have done both and have read between a third and a half of the total (there are lots of structures!) with considerable enjoyment. I hope it will find its way onto library shelves, those who purchased the first seven will not be deterred by the price, which at today's prices is not really excessive for a volume which should prove useful to a lot of readers over a number of years.

W. J. Feast
University of Durham

Physics of Polymer Surfaces and Interfaces

I. C. Sanchez (Ed.)
Butterworth-Heinemann, Oxford, 1992, £62.00
ISBN 0 7506 9214 6

The first seven chapters of this book present short pedagogical reviews of theories of fluid interfacial phenomena applicable to polymer interfaces. The striking aspect of these chapters, particularly Chapters 1, 2, 5 and 7, is how much of the classical theory of capillarity has been imported into polymer surface science. For example, the reader will find reviews of interfacial thermodynamics, square gradient theory, density functional theory and capillary wave phenomena. One quickly gains the impression that polymer science and liquid state theory are merging into one subject: the study of complex fluids. One finds no mention of power law dispersion interactions which are perhaps the last significant bridge to cross in this merger and which work of the past decade (and much earlier in the USSR) has shown to play such a dominant role in fluid interfacial phenomena. More traditional polymer physics is presented in Chapters 4 and 6, where lattice techniques and random walk theory are applied to the structure of homogeneous polymers. In a typically individualistic chapter, de Gennes discusses the possible significance of chain end adsorption to the mechanical properties of polymer interfaces. In all, these seven theoretical chapters serve as an introduction to the field, rather than as a detailed survey, and most of the technical detail necessary for applications to polymer problems is left to the references.

The second half of the book concentrates on the characterization of polymer surfaces and interfaces. Each chapter gives an introduction to a technique, describing the underlying principles and how it may be applied to studying interfaces and surfaces. As is inevitable with such a diverse range of techniques and authors each places their own emphasis either on the technique or the application. Since in general the underlying theory is not discussed in great detail, i.e. beyond the level found in much of the existing literature on these topics, we feel the book would have gained in interest considerably had there been greater emphasis on the novel applications of the cited techniques. Chapter 8, which discusses interlayer diffusion using neutron reflectivity, presents a good balance between explanation of the technique and its application. Other chapters consider mainly optical methods of characterizing interfaces, including more erudite techniques such as forward recoil spectroscopy, but also scanning angle reflectometry, Fourier transform infra-red spectroscopy and surface light scattering. As a reprieve from these 'conventional experiments' Dean and Webber present an interesting chapter on Monte Carlo simulations of polymer coils at interfaces in particular looking at direct- and electron-energy transfer processes.

Our overall impression is that the book gives a flavour of the diversity of techniques which may be used to probe surfaces and interfaces in general, and polymer interfaces in particular. The book will prove useful to graduate students and researchers wishing to learn more about related and complementary techniques.

S. D. Evans and J. R. Henderson
University of Leeds