thinly disguised advertising by polymer additive manufacturers, to critical and often polemical discussion of mechanisms.

In the reviewer's opinion, the latter make the most significant contribution to the advancement of the subject, even though the contents of some of the review papers are already dated in the light of more recent research. On the more fundamental aspects of the subject, the following are timely: Carlsson and co-workers on hindered-amines light stabilizers; Shlyapnikov on critical-concentration phenomena; Kuck on antioxidant stability; Arey and co-workers and Guyot and co-workers on PVC stabilization; Moore and Stanes and their co-workers on molybdenum smoke suppresants in PVC combustion; and Park and co-workers on the mechanism of plasticizer diffusion in PVC. Among the more empirical papers there are interesting reports on the photostabilization of polyurethenes (Ozawa *et al.*), on the photografting of azodyes into polymer surfaces (Bellobino *et al.*) and in the use of titanate coupling agents (Monte *et al.*).

Like most compilations of conference papers, this book suffers from the problem of repetetiveness, particularly in section 1 (u.v. stabilization) where, for example, the mechanism of the hindered piperidine light stabilizers is discussed at length on four occasions. It is interesting to speculate whether the prohibitively high cost of the book to the personal collector might have been reduced considerably by appropriate editing or by more careful selection of conference speakers to avoid repetition in the first place.

G. Scott
(University of Aston)

Polymer Degradation and Stabilization

N. Grassie and G. Scott
Cambridge University Press, £27.50, ISBN 0-521-24961-9

The wide technological importance of polymer degradation and the scientific challenge to understand its chemistry have not prevented the subject being something of a Cinderella of polymer science for many years. This is reflected in its superficial treatment in, or exclusion from, most text books. In the present book the authors have set out to remedy the deficiency by providing a survey of all of the major degradation reactions of polymers, and of the methods used for preventing them, at a level aimed at the student rather than the researcher.

After a brief general introduction there are six major chapters. A very substantial one describes the thermal degradation of polymers, copolymers and blends in the absence of oxygen and is followed by a shorter description of the photo-degradative effects of 254 nm u.v. radiation. Two major chapters discuss the chemistry of oxidative degradation and the reactions of stabilizers. Fire hazards and fire retarders have a chapter to themselves and the book is completed by a section covering miscellaneous effects, such as high-energy radiation, stress, atmospheric pollutants and hydrolysis. Throughout the book the reader is led gently to the frontiers of the subject. Experts may see an occasional assertion as contentious, but this is inevitable in a short book that covers so much, in a field that is still expanding.

The authors have both made very substantial contributions to their complementary fields and the book is thoroughly authoritative and up-to-date. The chapter on antioxidants is particularly welcome, since stabilizer chemistry has been developing very rapidly in the last few years. The approach usefully emphasizes descriptive chemistry; there is little discussion of kinetics, a subject well covered elsewhere, and only very limited description of experimental methods. Somewhat surprisingly, there is virtually no discussion of biodegradation or developments in biodegradable polymers.

The book is well produced and achieves its stated aims very well. It should be of interest to anyone looking for a reliable overview of the field and it is to be hoped that its availability will lead to a greater consideration of the subject in polymer courses.

N. C. Billingham
(University of Sussex)

Engineering Thermoplastics: Properties and Applications

Ed. James M. Margolis
Marcel Dekker Inc. (New York), $65.00 (Domestic), $78.00 (Foreign), ISBN 0-8247-7294-6

This work classically exhibits both the advantages and the disadvantages of an edited book: the main advantage is that the writers can speak with authority on their subject matter and give up-to-date information; the main disadvantage is that there is an inconsistency of treatment, with some contributors discussing the scientific background, with many references to the literature, whilst others provide little more than trade literature on properties, processing and applications. That all of the contributors, with the exception of the editor, came from manufacturing companies, had an overall neutral effect since, although contributors seemed to feel free to promote the product of their companies, the fact that contributions came from such a wide range of companies largely eliminated bias; even so, not all of the leading engineering plastics suppliers are represented. With such a work it is unreasonable to expect any critical comparison of the materials reviewed, and none was given.

Altogether, some 15 classes of engineering thermoplastics are covered, including recent additions such as poly(ether-ether-ketone), polyarylates and the poly(ether-imides). One notable omission, in my opinion, was that of fluorine-containing plastics: their absence led me to attempt a check on how the editor defined engineering plastics, which provided the title of the book, but I could find no attempt to make such a definition. This rather reinforced the view that the work is largely a compilation of papers rather than an integrated treatment. Nevertheless, there is much useful information provided and it should prove a valuable source of reference.

J. A. Brydson
(Polytechnic of North London)