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A Review of: “ADHESION AND ADSORPTION OF POLYMERS, Leing-Huang, Lee, Ed. (Polymer Science and Technology-Volumes 12A, B). Plenum Press, New York, 1980. 897 pp. (\$79.50)”

Leing-huang^a; George F. Hardy^a

^a Celanese Research Co., Summit, N.J., U.S.A.

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Book Review

ADHESION AND ADSORPTION OF POLYMERS Leing-Huang, Lee, Ed. (Polymer Science and Technology—Volumes 12A, B). Plenum Press, New York, 1980. 897 pp. (\$79.50)

These two volumes contain almost all of the papers presented at the International Conference on Adhesion and Adsorption of Polymers, which was held in April, 1979, at Honolulu, in conjunction with the First Joint Chemical Congress between the American Chemical Society and the Chemical Society of Japan. The 46 papers, plus discussion and introductory remarks by the Chairman of each session, touch on most of the currently active topics in this broad field.

The titles of the sessions, and the number of papers in each, are as follows:

1. Polymer Surface Interactions (5).
2. Characterization of Adhesive Interfaces (6).
3. Polymeric Structural Adhesives (6).
4. Fracture Strengths in Polymeric Systems (5).
5. Modification of Polymer Interfaces (8).
6. Kinetics of Polymer Adsorption (6).
7. Characterization of Adsorbed Interfaces (6).
8. Adsorption of Biopolymers (4).

Each session maintains a reasonable balance between theoretical and experimental topics. Japanese workers are fairly well represented (a valuable feature of this collection) but the distribution is rather uneven: one session (that on fracture strength) contains 5 of the 10 papers of Japanese origin.

The contributions differ widely in scope, ranging from reviews of the current status of a broad subject to brief reports on work in progress. Some of the reviews are extensive and detailed, but others are so concise as to present considerable difficulty to readers who are not already fairly well acquainted with the subject. Many of the papers appear to have been revised and expanded for book publication; they often contain far more material than could have been adequately covered in the time available during the meeting. The contribution by Maugis and Barquins, which describes their work on the adherence of viscoelastic solids, is an extreme example—it covers 76 printed pages.

These two volumes contain a great deal of useful and stimulating information; almost anyone whose work deals with the adhesion or adsorption of polymers will find something of interest. They do, however, suffer from certain characteristics which are probably inherent in their origin. They are not a balanced survey of their field, but rather a sampling of the diverse interests and approaches of the individual authors. Most of the currently active viewpoints are represented, but their proponents often appear to take little notice of the activity in other fields. (The published discussions are of little help in this regard, since they deal primarily with matters of detail.)

Having raised this criticism, it is only fair to admit that the sheer diversity of this collection may be one of its greatest strengths. It offers the reader a rare opportunity to open up new vistas by intelligent browsing. To quote only one example, I was especially fascinated by the description by Sanfeld, *et al.*, of the effects of surface chemical reactions on the deformation of interfaces; this subject, which has many interesting implications, was completely new to me. A number of other contributors could also be mentioned; in particular, those who describe a variety of ingenious, and potentially very useful, techniques for characterizing the behavior of adhesive interfaces.

The Editor and the Session Chairmen are to be especially commended on the speed with which these volumes were produced; their attractive appearance and relative freedom from errors will already be familiar to those who have encountered other books in this series. The timeliness of publication, and the amount of detail contained in most of the papers, will make the collection useful to those who were present at the meeting, as well as to the many others who were unable to attend.

GEORGE F. HARDY
Celanese Research Co.
Summit, N.J. 07901 U.S.A.