

## PREFACE

This third volume completes the treatise as planned some time ago. During the time of preparation, however, chapter after chapter became more substantial and for each subject covered at least two more suggested themselves as important enough to be included. Thus, the expansion from the original one-volume work to three volumes appears to have been insufficient and, although plans are as yet indefinite, gaps in the present series as well as further developments in the rapidly growing field may make a fourth volume advisable in the not too distant future.

The present volume, except for two chapters on principles and methodology of measurements, contains chapters devoted to individual topics and to some industrial applications where the rheology of the materials undergoing forming operations is sufficiently well understood. Readers may be reminded that the book has been a long time in the making and that during this period some fields have developed further by making greater strides than others toward a quantitative mathematical or physical formulation. These chapters appear therefore to be of unequal level. Inasmuch as they reflect the present state of the art, however, the purpose of the treatise, that of introducing the reader into unfamiliar fields of rheology, is hoped to be fulfilled.

In view of the venture which "Rheology" represented, it has been most gratifying to find that the first two volumes have been generally well received by critics and public alike. It has encouraged the editor to continue in the same style and with the same organization as that of the first two volumes. The chapters were written by prominent, competent, and articulate authors who were left free to arrange the material to the best of their judgment within the framework and objectives of the book. Inevitably, personal views are often expressed and the chapters were permitted to contain overlapping sections, a policy which the editor explained in the Preface to the second volume.

Despite earlier hopes and intentions, it was again found impractical to unify the nomenclature. The main reason was that the subject matter of Volume 3 is even more diverse than that of the earlier ones and uniformity of treatment lies still in the rather distant future. All the greater efforts have been made to facilitate the use of the book by appending lists of

nomenclature to the chapters and by adding an index which is not only extensively cross-referenced but which might serve as a glossary for the many overlapping or conflicting terms which appear in widely different areas of rheology. The index has been arranged also in conformity with the two earlier volumes so that, taken in conjunction, the three indexes should enable the reader to locate any desired subject matter speedily and conveniently.

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