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Volume 2: Fluids



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Naples, September 1-5, 1980

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PREFACE

At the VIIth International Congress on Rheology, which was held in Goteborg in 1976, Proceedings were for the first time printed in advance and distributed to all participants at the time of the Congress. Although of course we Italians would be foolish to even try to emulate our Swedish friends as far as efficiency of organization is concerned, we decided at the very beginning that, as far as the Proceedings were concerned, the VIIIth International Congress on Rheology in Naples would follow the standards of timeliness set by the Swedish Society of Rheology. This book is the result we have obtained. We wish to acknowledge the cooperation of Plenum Press in producing it within the very tight time schedule available.

Every four years, the International Congress on Rheology represents the focal point where all rheologists meet, and the state of the art is brought up to date for everybody interested; the Proceedings represent the written record of these milestones of scientific progress in rheology. We have tried to make use of the traditions of having invited lectures, and of leaving to the organizing committee the freedom to choose the lecturers as they see fit, in order to collect a group of invited lectures which gives as broad as possible a landscape of the state of the art in every relevant area of rheology. The seventeen invited lectures are collected in the first volume of the proceedings. We wish to express our thanks, for agreeing to prepare these lectures on subjects suggested by ourselves, and for the effort to do so in the scholarly and elegant way that the reader will appreciate, to all the invited lectures: R.B.Bird, D.V.Boger, B.D.Coleman, J.M.Dealy, P.De Gennes, C.D.Denson, H.Janeschitz-Kriegl, A.Y.Malkin, R.A.Mashelkar, S.Onogi, C.J.S.Petrie, R.F.Schwarzl, J.Silberberg, K.Te Nijenhuis, C.A.Truesdell, K.Walters, K.Wichterle.

As for the organization of the Congress itself, at the time of writing it is still in the future, and we can only hope that it will work out smoothly. If it does, a great deal of merit will be due to the people who have agreed to act as Chairmen of the individual sessions, and we wish to acknowledge here their help: J.J.Benbow, B.Bernstein, H.C.Booij, B.Caswell, Y.Chen, M.Crochet, P.K.Currie, M.M.Denn, A.T.Di Benedetto, H.Giesekus, J.C.Halpin, A.Hoffmann, Y.Ivanov, L.P.B.Janssen, T.E.R.Jones, W.M.Jones, H.Kambe, J.L.Kardos, E.A.Kearsley, J.Klein, K.Kirschke, S.L.Koh, J.Kubat, R.F.Landel, R.L.Laurence, G.L.Leal, C.Marco, J.Meissner, B.Mena, A.B.Metzner, S.Middleman, Y.F.Missirlis, S.L.Passman, S.T.T.Peng, J.R.A.Pearson, R.S.Porter, P.Quemada, A.Ram, C.K.Rha, W.R.Schowalter, J.C.Seferis, C.L.Sieglaflaff, S.S.Sternstein, R.I. Tanner, N.Tschoegl, J.Vlachopoulos, J.L.White, C.Wolff, L.J.Zapas.

The contributed papers have been grouped in eleven subject areas: theory; fluid dynamics; rheometry; polymer solutions; polymer melts; suspensions; polymer processing; rubber; polymeric solids; biorheology; miscellaneous. Of these, the first one (theory) has been included in the first volume together with the invited lectures; the next five, which all deal with fluid-like materials, have been included in the second volume, and the last five have been included in the third volume. Categorizations such as these invariably have a degree of arbitrariness, and borderline cases where a paper could equally well have been included in two different categories do exist; we hope the subject index is detailed enough to guide the reader to any paper which may be placed in a category unexpected from the reader's viewpoint.

Rheology is not synonymous with Polymer Science, yet sometimes it almost seems to be: papers dealing with polymeric materials represent the great majority of the content of this book. Regretting that not enough work is being done on the rheology of non-polymeric materials is an exercise in futility; yet this does seem an appropriate time for reiterating this often repeated consideration.

We would like to have a long list of people whose help in organizing the Congress we would need to acknowledge here. Unfortunately, there are no entries to such a list, with the exception of young coworkers and students who have helped before the time of writing, and will help after it. To these we extend our sincere and warmest thanks; their unselfishness is further confirmed by our inability to report their names. With this

exception, we have organized the technical part of the Congress singlehandedly, and we state this not because we are proud of it, but only as a partial excuse for any mishaps that may, and unfortunately will, take place.

We regret that only the abstract of some papers appear in the Proceedings. The mail service being what it is, some papers did not reach us in time for inclusion in the Proceedings; others reached us in time, but were not prepared in the recommended form. Also, some abstracts reached us so late that there was no time left for preparation of the final paper.

At the very end of the third volume, we have collected whatever information (title, abstract, or complete paper) we could on contributed papers the very existence of which became known to us after we had prepared the Table of Contents, Author Index and Subject Index. Again, we apologize for this.

Finally, we want to express our most sincere wishes of success to whoever will be in charge of organizing the IXth International Congress in 1984. Based on our own experience, and in view of the Orwellian overtones of the date, we cannot avoid being pleased at the thought that, whoever it is, it will not be us.

Naples, 1st March 1980

Gianni Astarita
Giuseppe Marrucci
Luigi Nicolais

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NOTE: Papers identified by the ° sign were not received in time for inclusion in this book, and only the abstract is included.

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