

PREFACE

THE FORMATIVE era of the field of the Mechanics of Solids and Structures saw a close relationship between the advances of primarily speculative and of more practical nature. As a result of accelerated scientific and technological progress of the recent past, however, the two main branches of the field became increasingly separated and occasionally even isolated from each other. Mechanics of Solids is considered today essentially a part of mathematical and applied physics, while the Art and Science of Structures belong to engineering. Even the term Mechanics of Solids is often thought of as a field not including, for example, Structural Analysis.

As the volume of original work within each branch is increasing considerably, fruitful interaction between them becomes more and more difficult and therefore more limited. In addition, due to a lack of a suitable international publication medium, national and language barriers may have inhibited progress in the field.

These are some of the thoughts, which lead to the formation of the new International Journal of Solids and Structures. As is laid down in the Aims and Scope of this periodical, to be published quarterly, the Journal will provide an international forum devoted exclusively to the Mechanics of Solids and Structures and will thus encompass all aspects of the field, from the more classical problems of structural analysis and its relationship to design, to mechanics of solid continua interacting with other media (such as fluids) and including, e.g. fracture, flow, wave propagation, heat transfer, thermal effects in solids, optimum design methods, model analysis, structural topology and numerical techniques. These examples are merely illustrations and are not intended to restrict the range of coverage of the Journal.

The emphasis will be placed on original contributions, both analytical and experimental, which appear to be of permanent interest to research workers and engineers in the field. If promoting knowledge in the area of principal concern of the Journal, papers of primary interest to other disciplines, such as Materials Science, Mathematics, Physics or Engineering Design, may be published.

To further progress in the field, review articles covering recent advances in limited technical or geographic area may occasionally also be included.

The realization that the existence of the new Journal may fill a gap and would thus be welcomed by workers in the field, is somewhat offset by the concomitant realization that the creation of still another journal will add to the proliferation of research periodicals and will thus make the journal jungle possibly even less passable than it is today. Yet, it seems that as long as some fundamental problems of production and dissemination of scientific information have not been resolved comprehensively on an international scale, and the research activities are increasing in most fields, specialized, international journals constitute a desirable, if incomplete, manner to fulfill a growing need.

It is thus hoped that, in particular, the International Journal of Solids and Structures may prove useful to workers in the area, both to authors and readers alike, and may enhance, in a certain measure, the advance of its chosen field as well as international co-operation and understanding.

George Herrmann