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Proceedings of the International Conference on the Application of Mini- and Micro-Computers in Information, Documentation and Libraries, Tel-Aviv, Israel, March 13-18, 1983

edited by

Carl KEREN and Linda PERLMUTTER

National Center of Scientific and Technological Information (COSTI) Tel-Aviv, Israel







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# CONTEMPORARY TOPICS IN INFORMATION TRANSFER

Volume 3



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#### **EDITORS PREFACE**

The first ever international conference was convened as a follow-up of a series of smaller workshops. A broad overview of the state-of-the-art of mini- and micro-computer applications was presented to about 400 participants from 27 countries.

The papers describe some of the many systems which are either already operational or are now being developed, they discuss various areas of applications, some of them traditional (such as library cataloguing, etc.) and some of them innovative (such as electronic text delivery and teaching). Conference sessions deal with a wide variety of topics, including hardware design, specific software problems (relating to systems and to application level), some selected application areas (such as education, library management, agriculture, etc.), and special topics such as networking, man-machine interaction, problems of developing countries, numerical fact retrieval, etc.

An early publication date is important for conference proceedings reporting on papers which discuss such a dynamic topic. Fast delivery of papers to the publishers took precedence over extensive editing, proofreading, indexing or any other activity which would enhance quality, but delay publication.

Most papers are published in the form they were submitted by authors; very few papers were edited or proofread. The editors assigned a limited number of keyword terms to each paper and the listing of these terms constitutes the subject index. Together with the author index, readers should be able to quickly identify and locate papers of interest.

Papers are published in order of their delivery in each of the sessions. Keynote talks are also printed in their order of presentation. Some sessions are prefaced by a short introduction by their chairmen; a summary of session discussions are included, when applicable. The introduction and summary of Session 9 and the summary of the Tutorial on Microcomputers were prepared by the editors. Papers which did not reach the editors by April 30, 1983, are represented by a short abstract.

We acknowledge with thanks the assistance of several staff members of the National Center of Scientific and Technological Information (COSTI) and especially of Ms. G. Gilat for her invaluable help. Thanks are also due to Ms. L. Sebag (typing of manuscripts), and Ms. I. Sered and Ms. M. Levanon (data input and computer programs).

Finally, we would like to acknowledge the generous financial and organizational assistance extended to us by the Gesellschaft fuer Information und Dokumentation (GID), the National Center of Scientific and Technological Information (COSTI), of the Israel Ministry for Energy and Infrastructure, the Fédération Internationale de Documentation (FID), the Israel Society of Special Libraries and Information Centres (ISLIC), and Micro-Daf Ltd., Israel. Their help made the conference a reality.

Tel-Aviv, May, 1983

Carl Keren — Linda Perlmutter Editors

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#### IN MEMORIAM

#### Professor Derek deSolla Price Avalon Professor, History of Science Yale University 22.1.1922 - 3.9.1983

During the publication process of this book, news reached us of the untimely death of Derek Price, one of its most prominent contributors. Derek Price was a world renowned scientist whose books, papers and ideas greatly influenced empirical studies of science and whose contribution to information science was second to none.

His paper, printed in these proceedings, is probably one of his last contributions to world science and truly represents the bold and farreaching vistas, which only a scientist of his stature could so convincingly describe and demonstrate.

Derek Price's memory will always be with us, his intelligence, his vision, his kindness, a beacon to all who had the privelege to know him.

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