

PREFACE

This book is the second volume of Collected Papers by Lotfi A. Zadeh. The first volume, entitled *Fuzzy Sets and Applications*, was published in 1987 by John Wiley. Its editors, Ronald R. Yager, Sergei Ovchinnikov, Richard M. Tong, and Hung T. Ngugen, describe in the Preface to the book their motivation to undertake the project:

At the beginning of 1985 the four of us decided that the 20th anniversary of the publication of the first paper on fuzzy sets would be a good time to undertake the project that resulted in this collection of papers. Our original conception was to be a personal tribute to Professor Zadeh who had in each case been instrumental in encouraging our efforts in the area of fuzzy sets. However, we soon realized that a selection of Professor Zadeh's papers would be of interest to a wide audience, and so by degrees our small project evolved into this volume.

The editors' judgment has turned out to be right. The book has proved to be of great utility to anyone interested in fuzzy set theory and its applications. For us, it has consistently been one of the most frequently used books. However, it was always somewhat frustrating when a needed paper by Lotfi Zadeh was not in the book. With passage of time, the number of Zadeh's papers not included in the book was steadily increasing, and so was the need for a second volume. In early 1995, we felt that the 30th anniversary of the publication of the first paper on fuzzy sets was an excellent occasion on which to publish such a needed book. Since we did not know of anyone else being interested in pursuing this project, we eventually decided to undertake it ourselves.

We felt that the book would fit well into the book series on *Advances in Fuzzy Systems—Applications and Theory* published by World Scientific. Our proposal to include the book in this book series was enthusiastically accepted by the publisher. Lotfi Zadeh not only endorsed the project, but provided us also with all information and documents we needed. We are very grateful for his help.

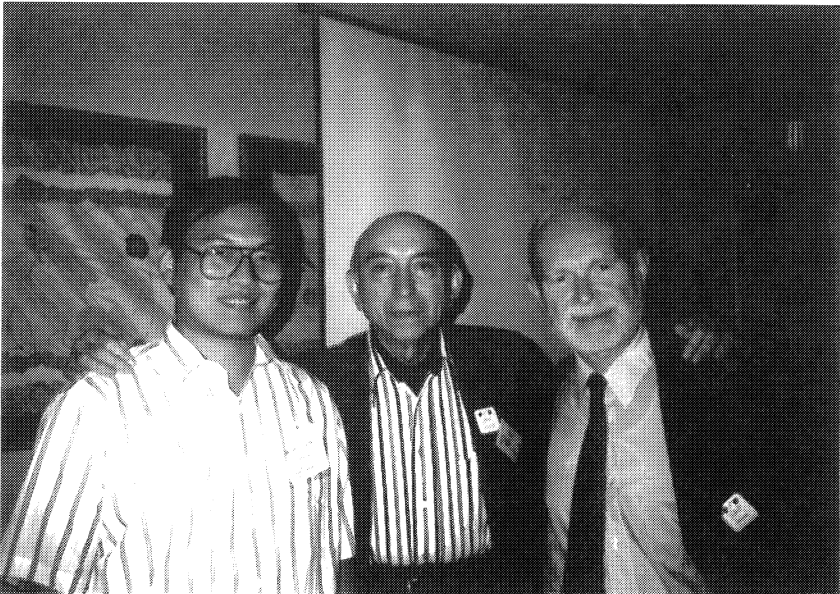
Our principal aim in defining the content of this book was to select, from among all papers by Lotfi Zadeh not included in the previous volume, those papers on fuzzy sets, fuzzy logic, and fuzzy systems whose easy accessibility would likely be of benefit to those working in these areas. From any group of papers on the same topic, we attempted to select the most comprehensive one. Some papers were chosen for their historical significance. This includes the first paper on fuzzy sets, published in 1965, which is the only paper in this volume that is also included in the previous volume.

In addition to his papers, also included in this book is an *Introduction*, in which we present a short biography of Lotfi Zadeh, an overview of his principal scholarly contributions, focusing primarily on his contributions to fuzzy set theory, fuzzy logic, and fuzzy systems, and a complete bibliography of his papers. The bibliography is divided into two parts: A. Papers on Fuzzy Set Theory and Related Subjects; and B. Other Papers.

Most papers included in this book are reprinted in their original form. New typesetting was employed only for papers whose original forms were not of sufficiently high quality. In a few papers, we had to make minor adjustments to avoid confusion caused by taking the papers out of their contexts. For readers' convenience, we prepared a Subject Index.

The purpose of this book is twofold. Firstly, it is intended as a reference for those working in the field. Secondly, it is expected to play a useful role in higher education, as a rich source of supplementary readings in relevant courses and seminars. We hope that the book will serve its purpose well.

George J. Klir and Bo Yuan
Binghamton, New York
December 1995



Lotfi A. Zadeh (middle) with the Editors,
Bo Yuan (left) and George J. Klir (right).