

Preface

The first systematic overviews on global optimization appeared in 1975–1978 thanks to two fundamental volumes titled *Towards Global Optimization* (Dixon & Szegő, 1975, 1978). At that time, and for many years since, global optimization was considered a quite “exotic” subject, too difficult to be of interest to those looking for nice theories and robust algorithms. Since then, thanks to those pioneering contributions and to the effort of many researchers, things have significantly changed. Today global optimization is considered a top level, dynamic, deep subject. Many of the most important scientific journals (most but not all in the field of mathematical programming and optimization) publish papers on this subject, and the *Journal of Global Optimization*, which has been published since 1991, is completely dedicated to it.

The field has grown so rapidly and interest in the scientific community has spread so widely that it would be quite difficult to introduce in an organic and complete way all of its numerous ramifications. It is so dynamic that, while preparing this book, at some point we had to stop consulting the literature; otherwise the lengthy process of writing would never have been stopped.

We had to make many choices concerning what to include and what to leave out, and thus some subjects have been left out or less extensively discussed. This should not be taken as an indication that they are not relevant. Also, although we tried to be consistent and up-to-date, it is certain that we missed something and perhaps reported some subjects in a way which differs from what the original authors meant. Please take into account that this book reflects our personal view of some topics in global optimization. Any error or omission was made in good faith, and is our responsibility.

It took us more than two years to prepare this material. It has been an exciting period of our lives; trying to explain a subject is the best way we know for learning it. We wish to express our gratitude to all SIAM staff for giving us such an opportunity and for assisting us during the preparation of the manuscript. In particular we are grateful to Philippe Toint, who first proposed and encouraged us to write this book; to Tom Liebling, who acted as editor and helped us with many stimulating suggestions; to the three anonymous referees, who had the patience and competence to read several versions of the book and who led us to introduce many improvements; and to Sara Murphy, who followed us so closely in all these years with great patience and professional support. Of course, we are grateful also to all the people at SIAM who were involved in producing the printed volume.

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