

# Bolzano and the Foundations of Mathematical Analysis

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Preface

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## PREFACE

On 5 October, 1781, an outstanding thinker, philosopher and mathematician Bernard Bolzano was born in Prague. On the occasion of the bicentennial of his birth, the Society of Czechoslovak Mathematicians and Physicists, one of the learned societies affiliated to the Czechoslovak Academy of Sciences, publishes this book.

The Society has directed its attention to Bernard Bolzano's personality and work on various occasions. A hundred years ago it published the treatise "Pure analytic proof that between two values that yield results with the opposite signs there lies at least one real root of the equation". This paper of Bolzano appeared originally in German in the journal *Abhandlungen der königlichen böhmischen Gesellschaft der Wissenschaften* Vol. V, 1817. It was translated into Czech and equipped with a commemorative note on the occasion of Bolzano's centennial by Dr. F. J. Studnička, Prague 1881. In the year 1930, Bolzano's "Functionenlehre", till then unpublished, was prepared for publication by the Royal Bohemian Learned Society and printed through the care of the Society of Czechoslovak Mathematicians and Physicists. It was provided with a preface by Prof. K. Petr and with critical remarks by Prof. K. Rychlík.

The Czechoslovak Academy of Sciences, fully realizing the importance of the personality and life-work of Bernard Bolzano, entrusted Prof. K. Rychlík with pursuing the studies of Bolzano's scientific legacy in mathematics. It was its mathematico-physical section that initiated Rychlík's work on the book "Theorie der reellen Zahlen im Bolzanos handschriftlichen Nachlasse", which was published by the Publishing House of the Czechoslovak Academy of Sciences, Prague 1962. Also in the following years the Academy continued to pay attention to the study of mathematical manuscripts found in the legacy of Bolzano.

The present book will help the reader to understand many of Bolzano's mathematical ideas and will show him their place in the structure of modern mathematics. The introduction was written by J. Folta while the author of the other four articles was a prominent Czechoslovak mathematician Vojtěch Jarník; he published them in various journals within a period of forty years (1922–1961).

This year the world commemorates Bolzano's bicentennial, which was included in the list of world cultural anniversaries by UNESCO. The Society of Czechoslovak Mathematicians and Physicists joins in this celebration and with the present modest publication pays tribute to Bolzano's life-work.

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