

FOREWORD

The present textbook is based upon lectures given by the authors at Helsinki University and at the University of Zürich, and is a translation of the German edition, *Einführung in die Funktionentheorie*, published by Birkhäuser Verlag, Basel, in 1964.

It is assumed that the reader is acquainted with analytic geometry and the calculus, so that this introduction to the theory of functions may be begun in the third or fourth year of undergraduate study in college.

As the Table of Contents indicates, the present volume is limited to the presentation of the elements of the theory of functions, and the authors have attempted to make the material both comprehensible and precise. Among the sections in which this volume deviates more or less from other presentations we must mention the following: the introduction of the complex numbers, the concept of homotopy and its application, the integral theorems, the theory and application of harmonic functions, in particular harmonic measure, and the correspondence of boundaries under conformal mapping.

Exercises have been placed at the end of each chapter, and all 320 of these exercises should be solved by the student for better insight into the subject matter, whether he learns the subject through lectures or by self-study.

In introducing the elementary functions (Chapters 2–7) we have followed in many places the presentation given by Ernst Lindelöf in his Finnish textbook, *Johdatus funktioteoriaan* (introduction to the theory of functions). This is particularly true for a considerable number of the exercises of these chapters.

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