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Classical Topics in Complex Function Theory [Complex Function Theory \(2/e\)](#) *Complex Function Theory An Introduction to Complex Function Theory* *Function Theory of One Complex Variable* *Theory of Complex Functions* *Cauchy and the Creation of Complex Function Theory* *Geometric Function Theory* *Function Theory of Several Complex Variables* *Complex Function Theory* [Complex Analysis](#) *Theory of Complex Functions* [Complex Analysis](#) *Topics in Complex Function Theory, Volume 3* *Complex Functions Explorations in Complex Functions* [Topics in Complex Function Theory, Volume 3](#) *Topics in Complex Function Theory* [Notes on Complex Function Theory](#) [Cauchy and the Creation of Complex Function Theory](#) *Elementary Theory of Analytic Functions of One or Several Complex Variables* *Several Complex Variables III* [Geometric Function Theory in Several Complex Variables](#) *Handbook of Complex Analysis* *Hidden Harmony—Geometric Fantasies* *Complex Function Theory, Operator Theory, Schur Analysis and Systems Theory* *Geometric Theory of Functions of a Complex Variable* *Harmonic Function Theory* *Condenser Capacities and Symmetrization in Geometric Function Theory* *Methods of the Theory of Functions of Many Complex Variables* *Complex Potential Theory* *Analytic Function Theory of Several Variables* *Function Theory in the Unit Ball of C_n* *Applied Complex Variables* *Function Theory on Planar Domains* *Collected Mathematical Papers* *Elliptic Curves* *Complex Analysis* *Function Theory of One Complex Variable* [Applied Pseudoanalytic Function Theory](#)

[Complex Analysis](#) Oct 15 2021 A thorough introduction to the theory of complex functions emphasizing the beauty, power, and counterintuitive nature of the subject. Written with a reader-friendly approach, *Complex Analysis: A Modern First Course in Function Theory* features a self-contained, concise development of the fundamental principles of complex analysis. After laying groundwork on complex numbers and the calculus and geometric mapping properties of functions of a complex variable, the author uses power series as a unifying theme to define and study the many rich and occasionally surprising properties of analytic functions, including the Cauchy theory and residue theorem. The book concludes with a treatment of harmonic functions and an epilogue on the Riemann mapping theorem. Thoroughly classroom tested at multiple universities, *Complex Analysis: A Modern First Course in Function Theory* features: Plentiful exercises, both computational and theoretical, of varying levels of difficulty, including several that could be used for student projects. Numerous figures to illustrate geometric concepts and constructions used in proofs. Remarks at the conclusion of each section that place the main concepts in context, compare and contrast results with the calculus of real functions, and provide historical notes. Appendices on the basics of sets and functions and a handful of useful results from advanced calculus. Appropriate for students majoring in pure or applied mathematics as well as physics or engineering, *Complex Analysis: A Modern First Course in Function Theory* is an ideal textbook for a one-semester course in complex analysis for those with a strong foundation in multivariable calculus. The logically complete book also serves as a key reference for mathematicians, physicists, and engineers and is an excellent source for anyone interested in independently learning or reviewing the beautiful subject of complex analysis.

Hidden Harmony—Geometric Fantasies Oct 03 2020 ?This book is a history of complex function theory from its origins to 1914, when the essential features of the modern theory were in place. It is the first history of mathematics devoted to complex function theory, and it draws on a wide range of published and unpublished sources. In addition to an extensive and detailed coverage of the three founders of the subject – Cauchy, Riemann, and Weierstrass – it looks at the contributions of authors from d'Alembert to Hilbert, and Laplace to Weyl. Particular chapters examine the rise and importance of elliptic function theory, differential equations in the complex domain, geometric function theory, and the early years of complex function theory in several variables. Unique emphasis has been devoted to the creation of a textbook tradition in complex analysis by considering some seventy textbooks in nine different languages. The book is not a mere sequence of disembodied results and theories, but offers a comprehensive picture of the broad cultural and social context in which the main actors lived and worked by paying attention to the rise of mathematical schools and of contrasting national traditions. The book is unrivaled for its breadth and depth, both in the core theory and its implications for other fields of mathematics. It documents the motivations for the early ideas and their gradual refinement into a rigorous theory.?

[Complex Function Theory \(2/e\)](#) Sep 26 2022

Complex Function Theory Jan 18 2022 *Complex Function Theory*

Complex Function Theory, Operator Theory, Schur Analysis and Systems Theory Sep 02 2020 This book is dedicated to Victor Emmanuilovich Katsnelson on the occasion of his 75th birthday and celebrates his broad mathematical interests and contributions. Victor Emmanuilovich's mathematical career has been based mainly at the Kharkov University and the Weizmann Institute. However, it also included a one-year guest professorship at Leipzig University in 1991, which led to him establishing close research contacts with the Schur analysis group in Leipzig, a collaboration that still continues today. Reflecting these three periods in Victor Emmanuilovich's career, present and former colleagues have contributed to this book with research inspired by him and presentations on their joint work. Contributions include papers in function theory (Favorov-Golinskii, Friedland-Goldman-Yomdin, Kheifets-Yuditskii), Schur analysis, moment problems and related topics (Boiko-Dubovoy, Dyukarev, Fritzsche-Kirstein-Mädler), extension of linear operators and linear relations (Dijksma-Langer, Hassi-de Snoo, Hassi-Wietsma) and non-commutative analysis (Ball-Bolotnikov, Cho-Jorgensen).

[Topics in Complex Function Theory, Volume 3](#) Jun 11 2021 Develops the higher parts of function theory in a unified presentation. Starts with elliptic integrals and functions and uniformization theory, continues with automorphic functions and the theory of abelian integrals and ends with the theory of abelian functions and modular functions in several variables. The last topic originates with the author and appears here for the first time in book form.

Notes on Complex Function Theory Apr 09 2021

Function Theory on Planar Domains Nov 23 2019 This treatment of complex analysis focuses on function theory on a finitely connected planar domain. It emphasizes domains bounded by a finite number of disjoint analytic simple closed curves. 1983 edition.

Theory of Complex Functions Nov 16 2021 A lively and vivid look at the material from function theory, including the residue calculus, supported by examples and practice exercises throughout. There is also ample discussion of the historical evolution of the theory, biographical sketches of important contributors, and citations - in the original language with their English translation - from their classical works. Yet the book is far from being a mere history of function theory, and even experts will find a few new or long forgotten gems here. Destined to accompany students making their way into this classical area of mathematics, the book offers quick access to the essential results for exam preparation. Teachers and interested mathematicians in finance, industry and science will profit from reading this again and again, and will refer back to it with pleasure.

Function Theory of One Complex Variable Jun 23 2022 Complex analysis is one of the most central subjects in mathematics. It is compelling and rich in its own right, but it is also remarkably useful in a wide variety of other mathematical subjects, both pure and applied. This book is different from others in that it treats complex variables as a direct development from multivariable real calculus. As each new idea is introduced, it is related to the corresponding idea from real analysis and calculus. The text is rich with examples and exercises that illustrate this point. The authors have systematically separated the analysis from the topology, as can be seen in their proof of the Cauchy theorem. The book concludes with several chapters on special topics, including full treatments of special functions, the prime number theorem, and the Bergman kernel. The authors also treat H^p spaces and Painlevé's theorem on smoothness to the boundary for conformal maps. This book is a text for a first-year graduate course in complex analysis. It is an engaging and modern introduction to the subject, reflecting the authors' expertise both as mathematicians and as expositors.

Applied Pseudoanalytic Function Theory Jun 18 2019 Pseudoanalytic function theory generalizes and preserves many crucial features of complex analytic function theory. The Cauchy-Riemann system is replaced by a much more general first-order system with variable coefficients which turns out to be closely related to important equations of mathematical physics. This relation supplies powerful tools for studying and solving Schrödinger, Dirac, Maxwell, Klein-Gordon and other equations with the aid of complex-analytic methods. The book is dedicated to these recent developments in pseudoanalytic function theory and their applications as well as to multidimensional generalizations. It is directed to undergraduates, graduate students and researchers interested in complex-analytic methods, solution techniques for equations of mathematical physics, partial and ordinary differential equations.

Collected Mathematical Papers Oct 23 2019 This publication was made possible through a bequest from my beloved late ~ wife. United together in this present collection are those works by the author which have not previously appeared in book form. The following are excepted: *Vorlesungen über Differential und Integralrechnung* (Lectures on Differential and Integral Calculus) Vols 1-3, Birkhäuser Verlag, Basel (1965-1968); *Aufgabensammlung zur Infinitesimalrechnung* (Exercises in Infinitesimal Calculus) Vols 1, 2a, 2b, and 3, Birkhäuser Verlag, Basel (1967-1977); two issues from *Memorial des Sciences on Conformal Mapping* (written together with C. Gattegno), Gauthier-Villars, Paris (1949); *Solution of Equations in Euclidean and Banach Spaces*, Academic Press, New York (1973); and *Studien über den Schottkyschen Satz* (Studies on Schottky's Theorem), Wepf & Co., Basel (1931). Where corrections have had to be implemented in the text of certain papers, references to these are made at the conclusion of each paper. In the few instances where this system does not, for technical reasons, seem appropriate, an asterisk in the page margin indicates wherever a correction is necessary and is then given at the end of the paper. (There is one exception: the corrections to the paper on page 561 are presented on page 722. The works are published in 6 volumes and are arranged under 16 topic headings. Within each heading, the papers are ordered chronologically according to the date of original publication.

Function Theory in the Unit Ball of C^n Jan 26 2020 Around 1970, an abrupt change occurred in the study of holomorphic functions of several complex variables. Sheaves vanished into the back ground, and attention was focused on integral formulas and on the "hard analysis" problems that could be attacked with them: boundary behavior, complex-tangential phenomena, solutions of the J -problem with control over growth and smoothness, quantitative theorems about zero-varieties, and so on. The present book describes some of these developments in the simple setting of the unit ball of C^n . There are several reasons for choosing the ball for our principal stage. The ball is the prototype of two important classes of regions that have been studied in depth, namely the strictly pseudoconvex domains and the bounded symmetric ones. The presence of the second structure (i.e., the existence of a transitive group of automorphisms) makes it possible to develop the basic machinery with a minimum of fuss and bother. The principal ideas can be presented quite concretely and explicitly in the ball, and one can quickly arrive at specific theorems of obvious interest. Once one has seen these in this simple context, it should be much easier to learn the more complicated machinery (developed largely by Henkin and his co-workers) that extends them to arbitrary strictly pseudoconvex domains. In some parts of the book (for instance, in Chapters 14-16) it would, however, have been unnatural to confine our attention exclusively to the ball, and no significant simplifications would have resulted from such a restriction.

Several Complex Variables III Jan 06 2021 We consider the basic problems, notions and facts in the theory of entire functions of several variables, i. e. functions $J(z)$ holomorphic in the entire n space C^n (i. e. $J \in H(C^n)$) (1 variables, as in the case $n = 1$, a central theme deals with questions of growth of functions and the distribution of their zeros. However, there are significant differences between the cases of one and several variables. In the first place there is the fact that for $n > 1$ the zero set of an entire function is not discrete and therefore one has no analogue of a tool such as the canonical Weierstrass product, which is fundamental in the case $n = 1$. Second, for $n > 1$ there exist several different natural ways of exhausting the space

Handbook of Complex Analysis Nov 04 2020 Geometric Function Theory is a central part of Complex Analysis (one complex variable). The Handbook of Complex Analysis - Geometric Function Theory deals with this field and its many ramifications and relations to other areas of mathematics and physics. The theory of conformal and quasiconformal mappings plays a central role in this Handbook, for example a priori-estimates for these mappings which arise from solving extremal problems, and constructive methods are considered.

As a new field the theory of circle packings which goes back to P. Koebe is included. The Handbook should be useful for experts as well as for mathematicians working in other areas, as well as for physicists and engineers. · A collection of independent survey articles in the field of Geometric Function Theory · Existence theorems and qualitative properties of conformal and quasiconformal mappings · A bibliography, including many hints to applications in electrostatics, heat conduction, potential flows (in the plane)

Methods of the Theory of Functions of Many Complex Variables Apr 28 2020 This systematic exposition outlines the fundamentals of the theory of single sheeted domains of holomorphy. It further illustrates applications to quantum field theory, the theory of functions, and differential equations with constant coefficients. Students of quantum field theory will find this text of particular value. The text begins with an introduction that defines the basic concepts and elementary propositions, along with the more salient facts from the theory of functions of real variables and the theory of generalized functions. Subsequent chapters address the theory of plurisubharmonic functions and pseudoconvex domains, along with characteristics of domains of holomorphy. These explorations are further examined in terms of four types of domains: multiple-circular, tubular, semitubular, and Hartogs' domains. Surveys of integral representations focus on the Martinelli-Bochner, Bergman-Weil, and Bochner representations. The final chapter is devoted to applications, particularly those involved in field theory. It employs the theory of generalized functions, along with the theory of functions of several complex variables.

Explorations in Complex Functions Jul 12 2021 This textbook explores a selection of topics in complex analysis. From core material in the mainstream of complex analysis itself, to tools that are widely used in other areas of mathematics, this versatile compilation offers a selection of many different paths. Readers interested in complex analysis will appreciate the unique combination of topics and connections collected in this book. Beginning with a review of the main tools of complex analysis, harmonic analysis, and functional analysis, the authors go on to present multiple different, self-contained avenues to proceed. Chapters on linear fractional transformations, harmonic functions, and elliptic functions offer pathways to hyperbolic geometry, automorphic functions, and an intuitive introduction to the Schwarzian derivative. The gamma, beta, and zeta functions lead into L-functions, while a chapter on entire functions opens pathways to the Riemann hypothesis and Nevanlinna theory. Cauchy transforms give rise to Hilbert and Fourier transforms, with an emphasis on the connection to complex analysis. Valuable additional topics include Riemann surfaces, steepest descent, tauberian theorems, and the Wiener-Hopf method. Showcasing an array of accessible excursions, *Explorations in Complex Functions* is an ideal companion for graduate students and researchers in analysis and number theory. Instructors will appreciate the many options for constructing a second course in complex analysis that builds on a first course prerequisite; exercises complement the results throughout.

Topics in Complex Function Theory May 10 2021 Cover title.

Complex Analysis Dec 17 2021 A thorough introduction to the theory of complex functions emphasizing the beauty, power, and counterintuitive nature of the subject Written with a reader-friendly approach, *Complex Analysis: A Modern First Course in Function Theory* features a self-contained, concise development of the fundamental principles of complex analysis. After laying groundwork on complex numbers and the calculus and geometric mapping properties of functions of a complex variable, the author uses power series as a unifying theme to define and study the many rich and occasionally surprising properties of analytic functions, including the Cauchy theory and residue theorem. The book concludes with a treatment of harmonic functions and an epilogue on the Riemann mapping theorem. Thoroughly classroom tested at multiple universities, *Complex Analysis: A Modern First Course in Function Theory* features: Plentiful exercises, both computational and theoretical, of varying levels of difficulty, including several that could be used for student projects Numerous figures to illustrate geometric concepts and constructions used in proofs Remarks at the conclusion of each section that place the main concepts in context, compare and contrast results with the calculus of real functions, and provide historical notes Appendices on the basics of sets and functions and a handful of useful results from advanced calculus Appropriate for students majoring in pure or applied mathematics as well as physics or engineering, *Complex Analysis: A Modern First Course in Function Theory* is an ideal textbook for a one-semester course in complex analysis for those with a strong foundation in multivariable calculus. The logically complete book also serves as a key reference for mathematicians, physicists, and engineers and is an excellent source for anyone interested in independently learning or reviewing the beautiful subject of complex analysis.

Geometric Function Theory Mar 20 2022 * Presented from a geometric analytical viewpoint, this work addresses advanced topics in complex analysis that verge on modern areas of research * Methodically designed with individual chapters containing a rich collection of exercises, examples, and illustrations

Analytic Function Theory of Several Variables Feb 25 2020 The purpose of this book is to present the classical analytic function theory of several variables as a standard subject in a course of mathematics after learning the elementary materials (sets, general topology, algebra, one complex variable). This includes the essential parts of Grauert-Remmert's two volumes, GL227(236) (Theory of Stein spaces) and GL265 (Coherent analytic sheaves) with a lowering of the level for novice graduate students (here, Grauert's direct image theorem is limited to the case of finite maps). The core of the theory is "Oka's Coherence", found and proved by Kiyoshi Oka. It is indispensable, not only in the study of complex analysis and complex geometry, but also in a large area of modern mathematics. In this book, just after an introductory chapter on holomorphic functions (Chap. 1), we prove Oka's First Coherence Theorem for holomorphic functions in Chap. 2. This defines a unique character of the book compared with other books on this subject, in which the notion of coherence appears much later. The present book, consisting of nine chapters, gives complete treatments of the following items:

Coherence of sheaves of holomorphic functions (Chap. 2); Oka-Cartan's Fundamental Theorem (Chap. 4); Coherence of ideal sheaves of complex analytic subsets (Chap. 6); Coherence of the normalization sheaves of complex spaces (Chap. 6); Grauert's Finiteness Theorem (Chaps. 7, 8); Oka's Theorem for Riemann domains (Chap. 8). The theories of sheaf cohomology and domains of holomorphy are also presented (Chaps. 3, 5). Chapter 6 deals with the theory of complex analytic subsets. Chapter 8 is devoted to the applications of formerly obtained results, proving Cartan-Serre's Theorem and Kodaira's Embedding Theorem. In Chap. 9, we discuss the historical development of "Coherence". It is difficult to find a book at this level that treats all of the above subjects in a completely self-contained

manner. In the present volume, a number of classical proofs are improved and simplified, so that the contents are easily accessible for beginning graduate students.

Applied Complex Variables Dec 25 2019 *Fundamentals of analytic function theory — plus lucid exposition of 5 important applications: potential theory, ordinary differential equations, Fourier transforms, Laplace transforms, and asymptotic expansions. Includes 66 figures.*

Complex Function Theory Aug 25 2022 *Complex Function Theory is a concise and rigorous introduction to the theory of functions of a complex variable. Written in a classical style, it is in the spirit of the books by Ahlfors and by Saks and Zygmund. Being designed for a one-semester course, it is much shorter than many of the standard texts. Sarason covers the basic material through Cauchy's theorem and applications, plus the Riemann mapping theorem. It is suitable for either an introductory graduate course or an undergraduate course for students with adequate preparation. The first edition was published with the title Notes on Complex Function Theory.*

Geometric Theory of Functions of a Complex Variable Aug 01 2020

Complex Analysis Aug 21 2019 *An introduction to complex analysis for students with some knowledge of complex numbers from high school. It contains sixteen chapters, the first eleven of which are aimed at an upper division undergraduate audience. The remaining five chapters are designed to complete the coverage of all background necessary for passing PhD qualifying exams in complex analysis. Topics studied include Julia sets and the Mandelbrot set, Dirichlet series and the prime number theorem, and the uniformization theorem for Riemann surfaces, with emphasis placed on the three geometries: spherical, euclidean, and hyperbolic. Throughout, exercises range from the very simple to the challenging. The book is based on lectures given by the author at several universities, including UCLA, Brown University, La Plata, Buenos Aires, and the Universidad Autonoma de Valencia, Spain.*

Elliptic Curves Sep 21 2019 *An introductory 1997 account in the style of the original discoverers, treating the fundamental themes evenhandedly.*

Complex Functions Aug 13 2021 *An elementary account of many aspects of classical complex function theory, including Mobius transformations, elliptic functions, Riemann surfaces, Fuchsian groups and modular functions. The book is based on lectures given to advanced undergraduate students and is well suited as a textbook for a second course in complex function theory.*

Theory of Complex Functions May 22 2022 *A lively and vivid look at the material from function theory, including the residue calculus, supported by examples and practice exercises throughout. There is also ample discussion of the historical evolution of the theory, biographical sketches of important contributors, and citations - in the original language with their English translation - from their classical works. Yet the book is far from being a mere history of function theory, and even experts will find a few new or long forgotten gems here. Destined to accompany students making their way into this classical area of mathematics, the book offers quick access to the essential results for exam preparation. Teachers and interested mathematicians in finance, industry and science will profit from reading this again and again, and will refer back to it with pleasure.*

Condenser Capacities and Symmetrization in Geometric Function Theory May 30 2020 *This is the first systematic presentation of the capacity approach and symmetrization in the context of complex analysis. The content of the book is original – the main part has not been covered by existing textbooks and monographs. After an introduction to the theory of condenser capacities in the plane, the monotonicity of the capacity under various special transformations (polarization, Gonchar transformation, averaging transformations and others) is established, followed by various types of symmetrization which are one of the main objects of the book. By using symmetrization principles, some metric properties of compact sets are obtained and some extremal decomposition problems are solved. Moreover, the classical and present facts for univalent and multivalent meromorphic functions are proven. This book will be a valuable source for current and future researchers in various branches of complex analysis and potential theory.*

An Introduction to Complex Function Theory Jul 24 2022 *This book provides a rigorous yet elementary introduction to the theory of analytic functions of a single complex variable. While presupposing in its readership a degree of mathematical maturity, it insists on no formal prerequisites beyond a sound knowledge of calculus. Starting from basic definitions, the text slowly and carefully develops the ideas of complex analysis to the point where such landmarks of the subject as Cauchy's theorem, the Riemann mapping theorem, and the theorem of Mittag-Leffler can be treated without sidestepping any issues of rigor. The emphasis throughout is a geometric one, most pronounced in the extensive chapter dealing with conformal mapping, which amounts essentially to a "short course" in that important area of complex function theory. Each chapter concludes with a wide selection of exercises, ranging from straightforward computations to problems of a more conceptual and thought-provoking nature.*

Harmonic Function Theory Jun 30 2020 *This book is about harmonic functions in Euclidean space. This new edition contains a completely rewritten chapter on spherical harmonics, a new section on extensions of Bochner's Theorem, new exercises and proofs, as well as revisions throughout to improve the text. A unique software package supplements the text for readers who wish to explore harmonic function theory on a computer.*

Elementary Theory of Analytic Functions of One or Several Complex Variables Feb 07 2021 *Basic treatment includes existence theorem for solutions of differential systems where data is analytic, holomorphic functions, Cauchy's integral, Taylor and Laurent expansions, more. Exercises. 1973 edition.*

Cauchy and the Creation of Complex Function Theory Mar 08 2021 *In this book, Dr. Smithies analyzes the process through which Cauchy created the basic structure of complex analysis, describing first the eighteenth century background before proceeding to examine the stages of Cauchy's own work, culminating in the proof of the residue theorem and his work on expansions in power series. Smithies describes how Cauchy overcame difficulties including false starts and contradictions brought about by over-ambitious assumptions, as well as the improvements that came about as the subject developed in Cauchy's hands. Controversies associated with the birth of complex function theory are described in detail. Throughout, new light is thrown on Cauchy's thinking during this watershed period. This book is the first to make use of the whole spectrum of available original sources and will be recognized as the authoritative work on the creation of complex function theory.*

Geometric Function Theory in Several Complex Variables Dec 05 2020 An English translation of a book that first appeared in Japanese. It provides an account of recent developments in geometric function theory in several complex variables and presents fundamental descriptions of positive currents, plurisubharmonic functions and meromorphic mappings.

Cauchy and the Creation of Complex Function Theory Apr 21 2022 Dr Smithies' analysis of the process whereby Cauchy created the basic structure of complex analysis, begins by describing the 18th century background. He then proceeds to examine the stages of Cauchy's own work, culminating in the proof of the residue theorem. Controversies associated with the the birth of the subject are also considered in detail. Throughout, new light is thrown on Cauchy's thinking during this watershed period. This authoritative book is the first to make use of the whole spectrum of available original sources.

Complex Potential Theory Mar 28 2020 Proceedings of the NATO Advanced Study Institute and Séminaire de mathématiques supérieures, Montréal, Canada, July 26--August 6, 1993

Function Theory of Several Complex Variables Feb 19 2022 Emphasizing integral formulas, the geometric theory of pseudoconvexity, estimates, partial differential equations, approximation theory, inner functions, invariant metrics, and mapping theory, this title is intended for the student with a background in real and complex variable theory, harmonic analysis, and differential equations.

Topics in Complex Function Theory, Volume 3 Sep 14 2021 Develops the higher parts of function theory in a unified presentation. Starts with elliptic integrals and functions and uniformization theory, continues with automorphic functions and the theory of abelian integrals and ends with the theory of abelian functions and modular functions in several variables. The last topic originates with the author and appears here for the first time in book form.

Function Theory of One Complex Variable Jul 20 2019 This volume connects complex analysis with calculus, algebra, geometry, topology and analysis. Exercises and illustrations are provided throughout the text. Also included is information on Bergman Kernal and two boundary behaviour of conformal mappings.

Classical Topics in Complex Function Theory Oct 27 2022 An ideal text for an advanced course in the theory of complex functions, this book leads readers to experience function theory personally and to participate in the work of the creative mathematician. The author includes numerous glimpses of the function theory of several complex variables, which illustrate how autonomous this discipline has become. In addition to standard topics, readers will find Eisenstein's proof of Euler's product formula for the sine function; Wielandts uniqueness theorem for the gamma function; Stirlings formula; Issas theorem; Besses proof that all domains in C are domains of holomorphy; Wedderburns lemma and the ideal theory of rings of holomorphic functions; Estermanns proofs of the overconvergence theorem and Blochs theorem; a holomorphic imbedding of the unit disc in C^3 ; and Gauss's expert opinion on Riemann's dissertation. Remmert elegantly presents the material in short clear sections, with compact proofs and historical comments interwoven throughout the text. The abundance of examples, exercises, and historical remarks, as well as the extensive bibliography, combine to make an invaluable source for students and teachers alike