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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1 Introduction and Background -- 2 Rational and Other Explicit Strong Solutions -- 3 Weak Solutions and Related Topics -- 4 Geometric Properties -- 5 Capacities and Isoperimetric Inequalities -- 6 Laplacian Growth and Random Matrix Theory -- 7 Integrability and Moments -- 8 Shape Evolution and Integrability -- 9 Stochastic Löwner and Löwner-Kufarev Evolution -- References -- List of Symbols -- Index.
Sommario/riassunto	This monograph covers a multitude of concepts, results, and research topics originating from a classical moving-boundary problem in two dimensions (idealized Hele-Shaw flows, or classical Laplacian growth), which has strong connections to many exciting modern developments in mathematics and theoretical physics. Of particular interest are the relations between Laplacian growth and the infinite-size limit of ensembles of random matrices with complex eigenvalues; integrable hierarchies of differential equations and their spectral curves; classical and stochastic Löwner evolution and critical phenomena in two-dimensional statistical models; weak solutions of hyperbolic partial differential equations of singular-perturbation type; and resolution of

singularities for compact Riemann surfaces with anti-holomorphic involution. The book also provides an abundance of exact classical solutions, many explicit examples of dynamics by conformal mapping as well as a solid foundation of potential theory. An extensive bibliography covering over twelve decades of results and an introduction rich in historical and biographical details complement the eight main chapters of this monograph. Given its systematic and consistent notation and background results, this book provides a self-contained resource. It is accessible to a wide readership, from beginner graduate students to researchers from various fields in natural sciences and mathematics.
