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Sommario/riassunto	This book presents comprehensive state-of-the-art theoretical analysis of the fundamental Newtonian and Newtonian-related approaches to solving optimization and variational problems. A central focus is the relationship between the basic Newton scheme for a given problem and algorithms that also enjoy fast local convergence. The authors develop general perturbed Newtonian frameworks that preserve fast convergence and consider specific algorithms as particular cases within those frameworks, i.e., as perturbations of the associated basic Newton iterations. This approach yields a set of tools for the unified treatment of various algorithms, including some not of the Newton type per se.

Among the new subjects addressed is the class of degenerate problems. In particular, the phenomenon of attraction of Newton iterates to critical Lagrange multipliers and its consequences as well as stabilized Newton methods for variational problems and stabilized sequential quadratic programming for optimization. This volume will be useful to researchers and graduate students in the fields of optimization and variational analysis.