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	Nota di contenuto	Introduction -- Emergence and fixation in the F-W model with two types -- Formulation of the multitype and multiscale model -- Formulation of the main results in the general case -- A Basic Tool: Dual Representations -- Long-time behaviour: ergodicity and non-ergodicity -- Mean-field emergence and fixation of rare mutants (Phase 1,2) -- Methods and proofs for the F-W model with two types -- Emergence, fixation with M 2 lower order types -- Emergence, fixation: The general (M, M)-type mean-field model -- Neutral evolution on E1 after fixation (Phase 3) -- Re-equilibration on higher level E1 (Phase 4) -- Iteration of the cycle I: Emergence and fixation on E2 -- Iteration of the cycle – the general multilevel hierarchy -- Winding-up: Proofs of the Theorems 3-11 -- Appendix 1 – Tightness -- Appendix 2. Nonlinear semigroup perturbations -- References -- Index of Notation and Tables of Basic Objects -- Index.
	Sommario/riassunto	This book constructs a rigorous framework for analysing selected phenomena in evolutionary theory of populations arising due to the combined effects of migration, selection and mutation in a spatial stochastic population model, namely the evolution towards fitter and fitter types through punctuated equilibria. The discussion is based on a number of new methods, in particular multiple scale analysis, nonlinear

Markov processes and their entrance laws, atomic measure-valued evolutions and new forms of duality (for state-dependent mutation and multitype selection) which are used to prove ergodic theorems in this context and are applicable for many other questions and renormalization analysis for a variety of phenomena (stasis, punctuated equilibrium, failure of naive branching approximations, biodiversity) which occur due to the combination of rare mutation, mutation, resampling, migration and selection and make it necessary to mathematically bridge the gap (in the limit) between time and space scales.