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Autore	Wirsching Gunther J. <1960->
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Nota di contenuto	Some ideas around 3n+1 iterations -- Analysis of the Collatz graph -- 3-adic averages of counting functions -- An asymptotically homogeneous Markov chain -- Mixing and predecessor density.
Sommario/riassunto	The 3n+1 function T is defined by T(n)=n/2 for n even, and T(n)= (3n+1)/2 for n odd. The famous 3n+1 conjecture, which remains open, states that, for any starting number n>0, iterated application of T to n eventually produces 1. After a survey of theorems concerning the 3n+1 problem, the main focus of the book are 3n+1 predecessor sets. These are analyzed using, e.g., elementary number theory, combinatorics, asymptotic analysis, and abstract measure theory. The book is written for any mathematician interested in the 3n+1 problem, and in the wealth of mathematical ideas employed to attack it.