## **S3**

## From the Theory of Chaos to Nonequilibrium Statistical Mechanics

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The theory of chaos has emerged from a multidisciplinary encounter of mathematics, physics, and other sciences. The study of chaotic (microscopic) dynamics is now contributing in a major way to our understanding of nonequilibrium statistical mechanics. In particular one does not want to be restricted to situations close to equilibrium. We shall discuss some of the successes and challenges that have been met in this new development.