

each chapter contains a summary at its end which may be briefly read before deciding to read a chapter—aiding private study and enhancing the text as a valuable reference source.

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### **Randomness and Recurrence in Dynamical Systems**

Rodney Nillsen

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*Readership:* Advanced undergraduates, postgraduates, and researchers in mathematics, and interested readers from other disciplines.

This book was a response to the requirement that the author should teach a new course on topology and chaos, in the context of the increasing “commercialization” of university teaching. It (thus) ties together ideas from a variety of areas, with the author remarking in the preface that the motivation of the ideas is greater than traditionally taught. This is an aspect which I like, and which might also appeal to other statisticians—there is emphasis on possible metaphoric meanings of the material as well as the formal aspects.

Although discussing topics mainly outside the undergraduate curriculum, and despite connecting things to recent advances, the book has been successfully pitched to make it accessible to undergraduates. It assumes no prior knowledge of measure theory, integration, or functional analysis, for example, and indeed largely sidesteps the need for these.

This book nicely illustrates the fact that, from the side of the scientist if not from the opposite side, C. P. Snow’s “two cultures” fence is permeable: it is illustrated with links to the arts and humanities—for example, to the music of Steve Reich and the works of Cicero. These linkages, showing how the ideas crop up in unexpected areas, reminded me of *Gödel, Escher, Bach* by Douglas Hofstadter, though this present book is far more mathematical.

There are bibliographies, exercises, investigations, and notes (containing, for example, historical references) at each of the ends of each of the chapters.

This would make excellent supplementary reading for a mathematics undergraduate wishing to see the links between different areas of mathematics. It would also provide a superb illustration of the fascination of mathematics, as art as much as science, for a reader from the other side of the two cultures fence—though nontrivial effort would be required.

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