covering all these modern developments in a single chapter (Chapter Nine) and discussing them without much background make it difficult for the intended (non-statistical specialists) to understand. The book uses several applied examples to illustrate and motivate different count models; worked examples are given with Stata, R and SAS. Code and solutions are provided along with a discussion of the results. The book assumes that readers will have basic knowledge of such software. Thoroughly worked examples with software code, several of them devoted to applying alternative count models to the same data set, provide a basic guide for model selection among competing models. The chapters are well structured, starting with points of discussion and ending with a brief summary. Where required, section themes are summarized. Also, the formula used, abbreviations used and examples used are summarized in tabular form. In brief it is a remarkable book and can be used as a practical guide for introducing count data analysis.

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Analyzing Baseball Data with R
M. Marchi and J. Albert, 2013
Boca Raton, Chapman and Hall–CRC
334 pp., $26.99
ISBN 978-1-466-57022-1

Analyzing Baseball Data with R is at the same time a quick guide to R programming, a primer on baseball data analysis ('sabermetrics') and an expedition into some highlights in professional baseball's history. The authors present a potpourri of well-conceived case-studies that give an insight into both the game's complexity and R's simplicity. Virtually no previous knowledge of statistical theory and software is required to master the data analyses and to follow the explications in this book; however, some familiarity with baseball jargon is clearly helpful. It goes without saying that a large amount of sports enthusiasm is necessary to enjoy this entertaining read fully.

The authors accomplish most diverse tasks by applying basic statistical tools: moving averages to explore streaks of hits and outs; linear modelling of players' career batting trajectories; LOESS smoothing to depict a batter's tendency to swing at pitches dependent on their location. They show how surprisingly easy it is to simulate a half-inning with a Markov chain, or a whole Major League Baseball season with the Bradley–Terry model. In addition, they put a few sabermetric specialities across like the Pythagorean expectation formula, run values and run expectancy matrices. All this results in a convenient toolbox to go into questions that have been bothering most baseball fans once in a while: what effects do certain ballparks have on players' performances? Do umpires change their behaviour according to the current count of balls and strikes? How exceptional (or, improbable) was Joe DiMaggio's famous 56-game hitting streak in 1941?

The authors' style of writing is pleasurable and bespeaks their passion for the game. Narratives and R commands are so smoothly intermingled that the source code hardly disturbs the flow of reading, and a wealth of graphs break up the grey. In fact, two entire chapters are dedicated to plotting data and the R graphic packages `lattice` and `ggplot2`. A great asset of the book is that it encourages the reader to learn the ropes of sabermetrics by actually running the example analyses on one's own computer. All data are available from public on-line repositories that hold information at different levels of detail (records per season, game, play or pitch). The authors provide step-by-step guidance on how to access and trawl these databases, how to download portions of data and to handle them in MySQL, and how to reshape data sets directly within R. More than 60 well-wrought exercises further whet the readers' appetite for launching into their own analyses, and maybe even to transfer some of the ideas to other sports.

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Simulating Nature: a Philosophical Study of Computer-simulation Uncertainties and Their Role in Climate Science and Policy Advice, 2nd edn
A. C. Petersen, 2012
Boca Raton, Chapman and Hall–CRC
xvi+ 224 pp., £41.99
ISBN 978-1-466-50062-4

This book can be considered a conceptual book for high level graduate students as well as scholars from climatology-related fields who wish to understand the philosophy underlying computer-based simulation of climate.

The book consists of an introduction with two main sections each of which is further divided into several subsections. The main parts of the book, sections 2 and 3, then discuss climate change simulations and the uncertainties arising from such simulations. Despite the clear-cut definition stated in the

book, uncertainty can be considered as a very broad concept within a climatology framework. Uncertainty may arise from

(a) the choice of general circulation models,
(b) the scenario under consideration and
(c) both the simulation method and the choice of algorithm to implement this, as well as
(d) the nature of the variable to be modelled (e.g. temperature or precipitation) and its temporal characteristics.

The stated aim of the book is to reveal the causes and results of climate characteristics observed both until today as well as those that may be observed in the future. The Intergovernmental Panel on Climate Change (IPCC) was launched in 1988 by the World Meteorological Organization and the United Nations Environment Programme. The first assessment report, the second assessment report, the third assessment report and the fourth assessment report of the IPCC were published in 1990, 1996, 2001 and 2007 respectively. Because of the date of this book it can therefore present the evaluations of the first four assessment reports. However, the IPCC decided to generate additional climate change scenarios based on new concentration scenarios at the meeting that was held in the Netherlands in 2007 with subsequent publication of the fifth assessment report in 2013. This work post dates the writing of this book.

We feel that there are a few areas that could have usefully been included in this book. Firstly, although very long-term simulation results can be obtained through climate models, the fact that the uncertainties may increase over time is always highlighted in the IPCC models. However, to be able to translate the climate model results with coarse resolution estimates into local scale variables (e.g. precipitation, temperature and humidity), there should be a statistical relationship between regional atmospheric variables and the local scale variables. This popular approach is referred to as 'statistical downscaling' in the literature and was not described in this book. Equally, data obtained from meteorological satellites as well as the National Centers for Environmental Prediction, the National Center for Atmospheric Research and the European Centre for Medium-Range Weather Forecasts reanalysis data sets are commonly used in the literature but are not referred to in this book. We believe that both aspects would be useful inclusions in future editions of the book. Another omission could be the fifth 'Coupled model inter-comparison project' that was carried out by the working groups within the World Climate Research Programme framework to examine the differences in climate models. In this context, the evaluation of the simulations of multiple models simultaneously (e.g. multimodel ensembles) has been discussed which has the potential to reduce the uncertainties and biases arising from climate scenarios and general circulation models. Some recommendations regarding the integration of projections of multiple models were prepared in a report by the IPCC in 2010 and were then presented (Knutti *et al.*, 2010).

In conclusion, this book can be considered as a philosophical research book for climatologists, but we feel that it needs to cover further topics in forthcoming editions.

Reference

Knutti, R., Abramowitz, G., Collins, M., Eyring, V., Gleckler, P. J., Hewitson, B. and Mearns, L. (2010) Good practice guidance paper on assessing and combining multi model climate projections. In *Meeting Report of the Intergovernmental Panel on Climate Change Expert Meeting on Assessing and Combining Multi Model Climate Projections* (eds T. F. Stocker, Q. Dahe, G.-K. Plattner, M. Tignor and P. Midgley). Bern: IPCC Working Group I Technical Support Unit, University of Bern.

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Bayesian and Frequentist Regression Methods
J. Wakefield, 2013
720 pp., £62.99
Springer, New York
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This comprehensive book is a welcome addition to the array of books that are already available on regression methods for two reasons:

(a) it contains detailed summaries of Bayesian and frequentist regression methods and
(b) it steers a nice course between describing theoretical results and practical examples.

The book opens with a well-written introduction describing some interesting examples. The book is then split into five parts. Part I contains introductions to both Bayesian and frequentist inference and lays the statistical foundations for much of the remainder of the book. Those who are already familiar with the key concepts (likelihood, prior and posterior distributions, hypothesis testing and variable selection) would be able to skip this section. Parts II and III essentially cover regression models