This is reflected in the book's being very much problem driven, using a wide range of examples, and concentrating on the algorithmic and operational aspects rather than the theoretical side of the field. Moreover, the authors possess a very clear and concise writing style, as is also evident in their papers and other books. And they have been thoughtful enough to share most of the data and code, through their Internet sites.

The chapters of the book in some ways mirror the chapters of some of the classical textbooks in multivariate analysis, with topics such as principal component analysis, ANOVA, discriminant analysis and canonical correlation analysis. The difference here is that the data are curves, so regularization methods, which ensure that the answers are also smooth curves, need to be incorporated.

Regularization is usually associated with the field of non-parametric regression (e.g. the smoothing of a scatterplot). One of the attractive features of this book is that, unlike a lot of literature in non-parametric regression, it presents the methodology in a way that shows that regularization is a not-too-distant cousin of classical statistical techniques. For example, what is ordinary least squares regression in the classical context becomes a ridge regression in the regularized context. This view of smoothing is nicely summarised in Sections 2.5 and 2.6 and has been presented in recent papers in the statistical literature, such as Eilers & Marx (1996) and Hastie (1996). It is a very attractive view of smoothing and much more palatable to applied researchers than are some other perspectives. I really like Sections 2.5 and 2.6; my only criticism is that they use notation such as 'LMSSE' without defining what it means.

To better evaluate the book at a micro-level, I carefully worked through Chapters 6 and 7 on principal component analysis (PCA) to the point of trying to program one of their PCA algorithms myself. (This was also driven by the fact that I may soon have some curve data that could benefit from a PCA analysis.) It seemed that the algorithm given in Section 7.4.2 was the most appropriate, so I implemented that one. On the positive side, my programming venture greatly benefited from the step-by-step presentation of the algorithm, including important advice on how to handle the computational challenges efficiently through matrix factorization methods. On the negative side, details such as how to compute the J and K matrices required in the regularization component are not given, which adds significantly to the reader's workload. It would have been helpful to have the details given somewhere for, say, the B-spline basis — in an appendix, for example.

In summary, this book is a 'must' if you want to learn about analysis of functional data. Professors Ramsay and Silverman have done us a great service by summarising this burgeoning subject into a single, accessible publication.

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Leading Personalities in Statistical Sciences: From the Seventeenth Century to the Present. Edited by Norman L. Johnson & Samuel Kotz. New York: John Wiley & Sons. 1997. xxiii+399 pages. A$78 (paperback). ISBN 0-471-16381-3.

Johnson and Kotz have combined again to produce another wonderful wide-ranging book. This one contains biographical sketches of 115 people who have contributed to the growth and acceptance of statistical methods since the early seventeenth century. From Bayes to Fisher, Quételet to Kolmogorov, these are fascinating profiles of many of the people who have shaped the discipline of Statistics.

Each biographical sketch takes at least one page; Fisher receives the most space with ten pages. The sketches have been written by 75 experts from various countries, including Australians Eugene

Seneta, Joe Gani, Evan Williams, Geof Watson and Ted Hannan. Many of the sketches have been adapted from entries in the *Encyclopedia of Statistical Sciences* or the *Updates* to it.

The sketches are divided into seven sections: Forerunners, Statistical Inference, Statistical Theory, Probability Theory, Government and Economic Statistics, Applications in Medicine and Agriculture, Applications in Science and Engineering. For each person, any secondary interests of sufficient importance are noted. About 40 of the sketches include small photographs or woodcuts — useful, but not quite the 'lavish illustration' promised on the back cover!

The earliest person included is John Graunt (born 1620), a pioneer in life-table construction and probable author of *Natural and Political Observations Mentioned in a Following Index and Made Upon the Bills of Mortality* published in 1662. The most recent person included is Jaroslav Hájek (born 1926), a Czechoslovakian statistician best known for his work on rank tests, sample surveys and stochastic processes. The median year of birth is 1867.

It appears that one criterion for entry was that the person must have died, although I could not find this stated anywhere. It would explain the otherwise surprising omission of some prominent living statisticians such as Sir David Cox, George Box and John Tukey.

The vast majority of personalities included are, understandably, males of European origin. Only four women are included: Gertrude Cox, F.N. David, Florence Nightingale and Elizabeth Scott. Two Australians are included, namely Edwin Pitman and Ted Hannan, both originally from Melbourne. Alexander Aitken is the only New Zealander.

For each personality, there is a discussion of their major statistical contributions as well as significant and/or interesting aspects of their private lives. There has also been some attempt to include information on the cultural or social environment in which the person worked, which is useful in understanding the nature of their contribution to the discipline.

The book includes several helpful tables including a summary of milestone events in the history of Statistics over the last four centuries. Other tables form part of a curious appendix giving a statistical analysis of lifelengths of the people included in the book. Part of this analysis is a refutation of the suggestion of Phillips (1972) that human beings tend to die soon after attaining a birthday.

The indexes are extensive. There is an index of names (including many more people than the 115 with biographical sketches) and a subject index. However, there appear to be some errors. For example, D.R. Cox is listed in the index with two page references, but neither page mentions him; the index entry for Hájek does not refer to his biographical sketch; and the index entry for 'likelihood ratio' refers to Hsu's contributions but not to Neyman or Pearson.

For me, the book will be useful when lecturing, as I like to provide interesting personal details about the major contributors to the topics I am teaching. For example, my students are usually interested to know that Diaconis was also an excellent magician, that Newton held a radical anti-Trinitarian theology for which he could have been sacked, and that Galton classified the relative beauty of women by location and concluded that Londoners were the prettiest. Now I can also inform my students that Feller was exiled for refusing to sign a Nazi oath, that Bonferroni was also an excellent pianist and composer, and that Wilcoxon ran away from home as a teenager to have a brief career as a merchant seaman.

A more serious use of the book will be as an insight into the history of Statistics. Most biographical sketches include references to more extensive biographical material if it exists, and selected references to papers and books by the person concerned.

This is a book worth reading. It provides a valuable historical perspective on our discipline, and is interesting and sometimes entertaining at the same time.

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